

Computer Computery

Thursday, November 18, 1982



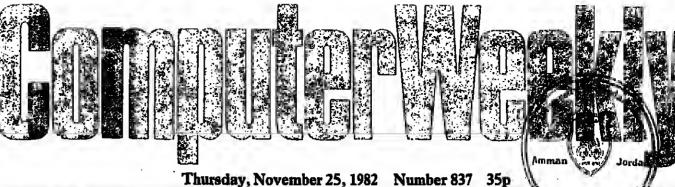
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2680 Series



The collapse in the order book threatens further redundancies,

and a repeat of what one ex-em-

ployee has called the "night of the

number were made redundant in

worst bit of Sperry's sales divi-

At the end of March Sperry had

1382 staff in the UK, 96 less than

the hudgeted payroll of 1478.

FERRANTI Computer Systems

DEC systems houses slow to speak out in software piracy case

by John Kavanagh DIGITAL Equipment systems houses are reluctant to get nvolved in a software piracy case between the giant minicomputer manufacturer and the London firm Darkcrest, even though they side with the UK company. It is claimed DEC's case could be oo shaky ground because of its reactions to its victories in the early

That is the view of Darkcrest managing director Nick Bracken-bury, who is trying to get statements from systems bouses on the third-party business, statements which be says would contradict DEC's evidence.

"We oeed people to say some very ordinary things about the market because we helieve that DEC's atatemeots do not reflect the way the company operates," Brackenbury said. "Everyone we've talked to supports us verbally hut they're reluctant about

putting it in writing."

Brackenbury said DEC had been surprisingly slow to take up the High Court order it woo at the end of July to search Darkcrest's premises for "evidence of misap-

propriation" of software.

"Normally companies carry out the order in a day," he said. "But not the Press.

going to court."
In addition, four months after winning the order, DEC had still failed to provide the documents

supporting that case.
"This is fundamental in English law and our solicitors are getting impatient," said Brackenbury. "It appears DEC is dropping the case. We are pursuing our counter-suit

taking the action because it was trying to increase end user sales by making life difficult for its systems houses and OEMs, traditionally its

big outlets.
DEC decied this charge. "People were saying this five years ago," aid a spokesman. "But the evidence apeaks for itself: we have 10 authorised computer distributors, tens of official OEMs and five

The spokesman added that DEC was determined to pursue the case

out.
DEC would not comment on
Darkcrest's other claims. Peter Bembridge, head of the legal department, said the company would conduct litigation in the courts,

A meeting set up by liquidators Laurence Gerrard last week, at the

solicitors, was attended by four

said they found that everything in the company was owned by some-

The local sheriff's men had al-

ready been in and repossessed valuable equipment that had either

been lent or leased to Knan and his

Micro Xeno vanishes into a web of intrigue crashed with official debts of about E 00, 100, further use field debt of £200,000 and assets of £2,000.

A SCRIPT straight from John Le Carré, complete with a night club in Germany, a pass to GCHQ in Cheltenham, and even Israeli intelligence is the cover for what looks request of a firm of Birmingham ike one of the industry's naughticr little rlp-offa.
Micro Xeno Ltd, the company

set up by Bart Khan to exploit the so-called "charge packet memora" charge packet memory" which claimed to hold 10 gigabytes of memory in a 6 x 6 inch cube, has



KHAN . . . disappeared.

LINE NOISE

THE future looks bleak for Rickmansworth-based micro distributor Al THE future looks bleak for Rickmansworth-based micro distributor Al Microcomputers. The VAT men have impounded its stock, bills have been left unpaid, and heads are rolling at the top. Following a shareholders meeting 'ast week, described by ex-director Louis Kamber as "not a happy meeting", MD Brian Watts is on the way out.

Watts was tight-lipped about the company's position: "I can't tell you anything to the remaining time I'm here," he said, "but there is a legal action pending with a third party."

IT'S note bising time at IGL's Askes division as the London Online Local Authorities bureau decides whether it is going to go IBM or IGL for its new mainframe. The authority has currently got a final decision to reach on whether to buy a 3081 or one of IGL's Fujitsu built Atlas machines.

There are no leaks as to which way the authority is going to go, but IGL must be hoping that its recent deal with the Severn Trust water authority will influence Lola and enable it to meet its quota of two Atlases sold before the war end



Clive Jenkins to join EDP picket

ware house.

Jenkins is this Friday due to join the 18 strikers at Electronic Data Processing in Sheffield, who first formed their picket line on May 21. The strikers are needing their 21. The strikers are seeking their own reinstatement and recognition for their union, ASTMS.

EDP managing director Richard Jowitt has made three unsuccessful ttempts to settle the strikers over the last two weeks. Offers of ahout £7,500 and £8,500 were rejected

by John Riley

UNION boss Clive Jenkins is to throw his own weight into the Union recommending it to them.

Jowitt denies the precise sums.

Originally 25 staff, representing about half of the company, weot on strike. Four went back and three found work elsewhere. The remaining 18, who include a programmer, two operators, 10 data preparation staff and others, are seekiog reiostatemeot aod recognition of their union (ASTMS) by the company.

This dispute, the longest run-ning in a software house, raises several questions of wide relevance, particularly at a time when

are two main issues, as well as an-

work up to Christmas.

oo strike in aympathy

members from this sector. There

The first hearing, on December 1, will be to see whether Jenny Wright, a technical author, has a she helped organise a union. The strong, for although she was told dant, she had two weeks before received a schedule detailing ner

However, the case is not so clear cut for the 25 who orginally went

for 32-bit share by Robert Parry DATA General, recently kit be hind at the lower end of the 324

DG push

mini market by rival DEC, htp.
ing hard to regain a foothold.

A new entry level Edge
machine, the MV/4000, jim
twice the performance of a BE.

VAX-11/730 — its nearest conlent — but for half the pix, claims Dats General.

With the machine, the company

with the machine, the comprise pushing for market start have key sectors: integrated office and mation and industrial sutemains. For the office market it will sper as an eight-terminal pacing system running the Comprise sive Electronic Office softer, while for the industrial automore market it will be offered as a design species of ORMs in bridging. ais version for ORMs to build in

But the new bottom-limachine is not Data General'in weapoo in its renewed assube the 32-bit mini market. In juran next year it is due to bring it much more powerful machine at the top of the Eclipse line, in MV/10000, which with its min frame power will outpefund and outptice - the DEC VAL

Meanwhile Data General 's gingered up the existing Ed;' range with various new personality printer and a 50-Min dise drive, as well as an intelligible of the personal of the aynebronous communication controller, and with a revision the real time AOS/RTM operating system. British mini maker GEC (c.

puters has brought out a buy r The thire are not based on any cojective analysis, he said last week, while announcing the Tele-communications Bill. The Bill will give the announcing the said week. it into new business and
This week it unveiled
desktop version of its 4000 Sec the 4150, to take GEC into 2 world of systems houses in ORMs. the government powers to sell BT to private investors and set up an Office of Telecommunications

Jenkin said BT's employees would benefit from a huge expansion in telephone networks and in the numbers employed on them, timilar to that seeo in the US, as a

PASCOE . . . "More medicine may be needed".

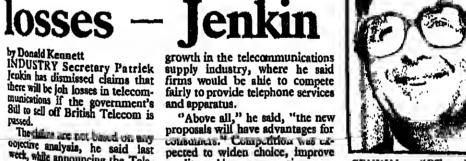
No Telecom job

results of the Bill.

It coult for the Bill.

It could made necessary by the newly-created competitive environment, and Part Office Engineering Union general secretary Bryan
Stanley says the Bill is completely
annecessary and will be to the detiment of a large number of customers and staff

The Labour Party and the tele-



LOW morale and a catastrophic

drop in business are facing Sperry Univac in the UK, with the threat of further redundancies hanging

over the company's staff.
Order hookings for the first balf

of fiscal 1983, ended September

30, are £11 million, according to

internal Sperry documents, well short of a budgeted order book of

£56 millioo for the full year. That

figure bas already been reduced

from £75 million, say sources in-

Sperry's UK marketing director

John Pascoe said he was unable to

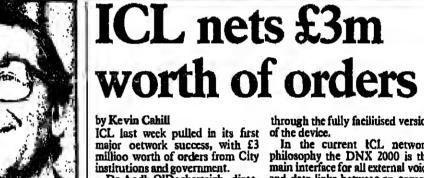
comment on the figures, since the

company does oot make any public

to change the terms of a company's licence and to take licensees to

on an equal footing with other companies. It removes BT's exclu-sive privilege to run telecommunivant equipment "approved" or "oot approved" for connection to public telecommunications oetworks, or to state in advertise-ments whether it is approved, will be liable to prosecution by the Director General of Telecommuni-BT itself will require an operat-ing licence for which it will pay a fee and the Office of Telecommu-nications (Oftel) will check that

Also last week, Jenkin an-nounced that BI's target rate of return on assets was raised from 5.5 per cent for last year to 6.5 per cent for next year. Coupled with continued constraint on tariff increases and an external financing limit which was reduced to £96 Jeakia also predicted huge Office Users' National Council's keep BT under pressure to injoh of investigating consumer comcrease efficiency, be said.



major oetwork success, with £3 in the current tCL network million worth of orders from City institutions and government.

In the current tCL network philosophy the DNX 2000 is the main interface for all external voice

nstitutions and government.

Dr Aodh O'Dochartaigh, director of ICL b DNX Division whick section and its core it acquisit per is responsible for the sale of the Mitel DNX 2000 voice and data private exchange, last Priday announced the order book, and a five-year target of £80 million in the second open systems local area network.

See page 4 for a full report on ICL's Roadsbow and its ambitious year — end announce-

Severe slide

at Sperry UK

annual review in April.

But be did say that Sperry was suffering with everyone else in the industry. "We have taken some

nedicine that we hope will cure

the problem, but more medicine may be oeeded," he said.

The order book trend at Sperry, the UK's 10th largest computer company, follows poor results recorded at the end of fiscal 1982.

At that time orders were £49 mil-

lion against planned bookings of £85 million. Revenues for the year

were not so bad, showing a total in

1982 of £70.4 million against a budgeted £84.2 million. But the

company lost £1.85 million before

turnover for the division. In a marketplace growing 50% plus a year, at least one stockhroker, Nell Barton of Cool umsden, thought O'Dochartaigh

We are on the threshold of th network revolution. Demand for products like the DNX 2000 far

outstrips supply, and ICL has only mentioned its UK target."

The company has pinned not only its hopes, but virtually its enure network philosophy around the DNY 2000. The exchange, currently built by Mitel in Canada but scheduled

for production in Wales next year, ease.
Up to 10,000 lines can be routed

We have taken some medicine that we hope will cure the problem' - marketing director New man at Altergo puts in US money AMERICAN Stockbroker and

hecome a director of the British software house Altergo and has "made a subatantial investment"

in the company.

The shake-up has led to the departure of former director Dick

Protest to PM

UK MICRO-MAKERS are due to protest to the Prime Minister today about the government's pur chasing policies. The British Mierocomputer Manufacturers' Group has sent a letter to Mrs Thatcher complaining that in a oew short-list of approved micro suppliers unly 20% were UK com-August. That figure has ranged between 60 and 200, with Sperry officially sucking to the former. Government operations is the

IBM image IBM has launched an image termi

nal for under £10,000 that can scan, transmit and receive black and white images. It allows a host any number of other image terminals, called Scanmasters, on a local, national, or international



'Spend more' plea

UK COMPUTER and business equipment industries must spend more on Education and training and achieve a higher level of vestment in research and de velopment, Rex Fleet, chairman of NCR and the incoming president of the Business Equipment Trade Association, said last week.

if you like our terminalsyou'll love our micros TeleVideo, manufacturer of one of the most II TS800 models ere built eround the Z80A chip and use A clear growth path is provided from the stand-alone 64K TS802 to the 128K multi-user TS816. The TeleVideo micro, from Date Type

O A I A O Dent fine Limited Lighternam House, Limited Lighternam House, Limiternam (National Property of Control (Nation

Micro bonfire threat

y John Kayanagh

FORMER Byte Shop managing director Bill Cannings is back at the centre of controversy — this time over the alleged failings of a system from one of his new former director of Khan's second company, Micro Xeno Company and Reprographic Services Ltd, the missing Khan may now be in Germany. "He came back from Cannings hit the oews with ooe of the first chains of UK high street computer short and the street computers short and the street computers are street computers and the street computers and the street computers are street computers are street computers and the street computers are street computers and the street computers are street computers are street computers and the street computers are street computers are street computers are

another retailer, in 1980.

casion, and mentioned something about a night club in which he had Powell, who invested £5,000 in Micro Xeno, resigned last December and went to the police because he believed that Khan was oot complying with company law. forwarding firm, which bought an Intertee Superbraio and ledger packages from Cannings' company a year ago. "Not a week has passed without

company went into receivership in 1979 and was bought by Comart, The dispute is with Power Packing Services, a packing and freight

stop our accounting work," said Power Packing director John Ja-

claims, saying his company has helped Power Packing with its installation but that the customer has ignored suggestions that should take out a £300-a-year

"We will gladly sign a maintenance agreement - but they must get the system working in the first

acobs added, "If all else fails will invite the Press to see the computer and software being put on a bonfire and its ashes placed in a box and sent to Intertec.

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quality and lower some prices.

longer have to pay high telephone bills to provide the extra revenue

cations systems and its prover to

BT compiles with its terms. Those

tomorrow's investment," he





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BEVAN . . . "Anyone will be able to get in on IBM user base".

'Appalling record' on enforcing standards

THE track record of existing suppliers in implementing standards is appalling, according to Mike Bevan, managing director of octwork supplier Kionics.

Bevan, speaking at the London hranch of the British Computer Society, said he knew of no existing data processing standard for which there was not a subset, a

superset and several dialects. For these and other reasona Bevan said that open systems architectures would not exist as a usable entity for five to seven

'Nobody expects the complete oo the IBM user base."

Bevan. Those views will be seen as distinctly dampening in a sector of the DP industry where, hy Bevan's own admissioo, hyperbole far ex-

While generally seeing big suppliers as the major roadhlock to common standards, Bevan queried IBM's interest in seeing truly open

When open systems are teally here, you will open up IBM even more; anyooe will be able to get in

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office automation

NORTHERN Telecom has anounced a series of moves designed to make it as easy as posible for both users and manufacturers to plan office auto-mation systems around its SL-1 digital telephone and dats ex-

The coropany is now selling the rhe coropany is now semog the specification of the digital trans-mission path through its exchange so that terminals and computers can be connected without modems, carry the minimum overhead in call set-up procedures and communicate at the highest data rate used internally in the ex-

change.

It has also announced specific agreements with Digital Equipment and Sperry Univac to collaboration of future orate on the design of future equipment interfaces. And it has announced a five-year \$1 billion announced a live-year \$1 billion development programme in open protocols for a growing range of communications including voice, data, image and eventually moving video — all of which will be designed to handle a wide range of

types and makes of equipment. to be available for three more
years, with a further three years to
implementation," according to
Bevan. Those views will be seen as data cooferencing and for voice, text and image multi-media mes-saging services based on Northern elecom devices.

Northern claims that the Displayphone it launched last year was the first combined voice and data terminal on the market. It also claims its SL-1 PABX is the most successful in the world, with a total of two million lines installed

And that its DMS-100 range of digital public exchanges, which will be included in its open protocol development programme, is the most successful in North

The company also plans to develop gateways to proprietary local area networks, X25 public packet witching networks and private etworks based on IBM's SNA. The open approach taken by

y Philip Hunter COMPANIES that have de-

veloped general purpose expert systems are living in a fantasy world. The best use of present technology is in tailoring a system for a particular application like medical diagnosis or oil explora-

This view came last week from a

auddiog authority on expert

systems, Max Bramer of the Open University, speaking at the Perga-mon Iofotech State of the Art coo-

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RANCH OFFICES

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Northern Telecom parallels an in-creasing demand from users for

for Olivetti

by Jack Gee FRANCE'S Minister for Industry and Research has told Carlo de Benedetti, vice-chairman aod managing director of Olivetti, to buy back the 33% stake in his company held hy State-owned Saint Gobain or sell out the rest of the equity to the French conglom-erate, industrial sources said in

Olivetti would have to raise £120 million to repurchase Saint Go-hain's holding. The surrender of the Italian company to French control is ruled out, the sources added.

De Benedetti is oow looking into the possihility of Saint Go-bain's stake being transferred by the French government to another nationalised concern. The telephone exchange manufacturer CIT-Alcatel is widely mentioned

France's Socialist government has already compelled Saint Go-

THOMSON-BRANDT and

Gruodig last Friday put the

finishing touches to an agreement which could reshape the entire

European electronics and compu-

ter industry by creating a major

new grouping.
The French State-owned firm

took a 74.5% stake in Grundig, whose remaining 24.5% of equity is held by Philips. Agreement by Philips, which has prior call on Grundig shares oow available, was

The immediate objective of the

Thomson-Grundig merger is to

stablish a powerful front in

Europe against the assault by Japa-

oese electronic consumer goods, particularly video cassette re-

regarded as certain.

Honeywell Bull, which is oow 80% State-controlled, in the framework of a policy to exclude the glass

Olivetti is hecoming increasingly impatieot with the slowness of the French government in working out its overall electronics strategy on which the Italian firm's future in France now

De Benedetti hos told Jean-Pierre Chevenement, the French Minister for Industry, that Olivetti will not tolerate any interference by the French government and has the right under Saint Gobain's purchase deal of 1980 to re-purchase its shares if these were up for

The Olivetti chief said recently that he had reached an agreement

But the three companies

involved clearly look forward to

closer co-operation in other fields of research, development and mar-keting in which computer compo-

The West German anti-cartel or-

ganisation is expected to give its blessing to the Thomson-Grundig

alliance because it is worried shout the fate of the national electronics

industry following the collapse of

Thomson's move into Germany

It has obtained State approval to

coincides with its success in France, in extending its hold on

with those from Philips and Grundig factories which secount for national plan to rational p

Thomson-Grundig merger aims

for powerful European grouping

nents will be a key part.

AEG-Telefunken.



De BENEDETTI ... WIL tolerate State interference.

The French government near to obtain access to the Italian ar-ket for French time divisi electronic telephone exchange it return for an Olivetti rok in ofice

que, EPCIS - io which Thomas and the French nomic eser

pressed by argument from Tex soo's administrator general Alla Gomez that Cll-Honeywell B. which is also under State conv.

is being given a privileged poets in computer production.

But in rewarding Thomson vit

control of Eurotechnique, t

French government is lumbers taxpayers with a bill of burn.
FFr100 and FFr200 million dis

£16 million) for paying on a National Semiconductor for a licences — hitherto freely available

to Eurotechnique - and royalis

Viewdata

to the wall, says report

tion systems. But details still be to be worked out, de Benede

De Benedetti said: "CiT-Alexi

is certainly the best in Europe telephone switching systems. Ex poring the largest two maoufacturers, average revenues in 1981 were \$2.9 million, and less in 1982. I'm afrald an arrangement on der lines between France and luly This may seem plenty to keep the receiver at bay, but the start-

Easing the move to £120m ultimatum Some robot firms will go Philips launches multi-user micro

automanon strategy bas been laid with its launch last week in a Madrid of a multi-station microcomputer. At the same time Philips has marked its intention of following the latest trend of the industry by selling its products in the volume market through indirect distribu-

A report from the US Venture Development Corporation expects A local area network strategy will be announced in January, with clutch of mergers and bankruptcies among these companies to leave 21 survivors by the end of an integrated office automation 1983. Persisteoce will he system to be demonstrated at the rewarded, however, because by 1987, the 30 or so US companies making robots will share a market Hanover Fair in April. The LAN will be based oo token passing standards formulated by the Institute of Electrical and Electronic of \$1,000 million, five times bigger Engioeers, and heiog elosely looked at by IBM. thin in 1983.

The VDC report is particularly concerned about the reveoues of the smaller robot producers. Ig-

The new micro, the P3500, will have a "16-hit architecture", but in its initial form will he an eighthit system operating under Turbodos, a PM 2.2 compatible operating system from Microsoft.

Town Newton, divisional direct

Tooy Nevison, divisional direc-tor of Philips Business Systems, said that an eight-bit version has

But Philips' decision to develop last January, and it is clear that the eight-bit offering has been rushed onto the market to ensure Philips' credibility with its customers.

Software for the micro will come from third party software bouses, with Peachtree, subsidiary of US giant Management Science merica and a supplier to the IBM Personal Computer, likely to he the first to be signed up. Sheffield Micro is another potential partner. Deliveries to end users will be-

gin in March of next year, and a August. The emphasis is on industry standard technology, said Nevison, with compostibility with IBM systems a high priority, and ICL compatibility likely to come

The initial relesse offers up to four shared-resource workstations, each with a dedicated Z80 proces-

languages include CIS Cobol, RM/Cobol, Multi Basic, and Basic 80. Graphics will come in the

autumn of next year.
The P3500 has a starting price of about £3,000. A two workstatioo, 5 Mbyte hard disc and 300 characters per second printer will cost about £8,500. Micro packages such as WordStar, MailMerge and CalcStar will be available.

About 40 distributors will be available will be available.

appointed by the end of 1983, with distributors by 1985 expected for full UK coverage. The general manager responsible for the distri-hution chain, Sixto Rodriguez, said that 50% of the data proces-

Nevison said Philips is spending £2 million a day on "technological pioneering type work", with 4,000 research workers. The company's UK data processing division turned over about £50 millioo in



NEVISON . : . Emphasis on industry standard technology.

Strike-hit Sinclair looks for suppliers

units. Timex is the main manufacturer of Sinclair's computers. The interruption in supply has set Sinclair looking for other possible annufacturers.

The strike came about when minagement suspended five workers, and 3.500 walked out in

support. Meetings last Thursday

by Robert Parry

SINCLAIR Research was last supply history. Technical problem - a strike at the Timex thiory in Dundee, which cost Sindian distribution of the supply history. Technical problems built up a backlog of orders, which was increased by Timex's annual three-week holiday just as thir a full week's production, production was starting to pick up, about 20,000 Spectrum and ZX81 In October Thorn EMI was taken

workers, and 3,500 walked out in creases steadily lo the run up to the machine — which is only swailthe machine — wh prospect of the waiting list stretch-Times has been the primary ing out again started a search for possible alternative manufactur



Two of the nix promoted by computer.

Leg up for secretaries

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take over Eurotechnique, a manu-facturer in which National France receotly introduced cusoms curbs on imports of video Semiconductor holds a 49% stake. French conglomerate Saint Gohain exercises 51% control. The government has favoured

custom warehouses to fill up oot only with Japanese products hut

recorders, and these have caused

Expert systems always wrong'

from the general purpose huilders just will oot work". The reason for the failure of general purpose expert systems, says Bramer, is that expert knowledge is difficult to condense into a set of rules capable of computer analysis. Experts themselves often do oot understand how their minds work, and so much of their

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koowledge is uocoosclous. Therefore only a carefully tailored approach will work. The biggest handicap facing ex-There can be no doubt about pert aystems hullders claims as they learn from experience. Jof collaborating to

t," he said. "Expert systems made Bramer, is that experts are always

'give away

on productioo.

Bramer, is that experts are always wrong. "It follows that all expert systems are wrong too," he says.

Because experts make mistakes in their fields, expert systems can sometimes perform better says Bramer. This can happen hy gradually refining an expert system after running it on test cases.

One of the most exciting posabilities for expert systems, says Bramer, is to have them make up their own rules as they go along. They would be given a small cluster of rules to start from, and add as they learn from experience.

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tabecriptions
K C25, Students E12.80; US Constitutions 355; Surpor (A Second District Minds Distric

A PCOL of secretaries working for a llome Counties estate ageocy has book over their old lobe.

and reception duties were given the opportunity of more responsible functions.

Curson and Poole has nine offices in Hertfordshire and North

The girls, who used to be reper, have been freed to show the contracts, said the firm's roote.

The sagency is one of the first in the country to one of the first in this method gives much greater.

The agency is one of the first in this method gives much greater this method gives much greater this method gives much greater management control," said Poole.

Customers could now go into one branch inquiring about what houses were available in a different area and be given a list on the spot-

Boom in DPMs' jobs this year

year, according to figures issued by Management Selection Ltd in its quarterly MSL Index*. This index is a lead indicator for

other economic indices and is made up of a count of all advertisements in the national newspapers and the *Economist* for managerial senior technical and professiona

The computing vacancies are from industry, commerce and government aponsored agencies and vacancies. The base salary is in

the same period.

Within the computing sector, there was a steady rise to 1977, followed by a high plateau of about 450 jobs per quarter. This lasted until 1980 when the number of adverts plunged to as low as 268 in the third quarter.

It is only in 1982 that there has been a significant increase, top-ping 500 in the second quarter. The latest figure of 510 suggests

by John Riley
THERE has been a boom in DP
management recruitment this
vear. according to figures lessed

The total number of job savertissements for the third quarter of
1982 was 6,822, an increase of 55%
over the same period last year. Of these 510 were computer jobs, which is an increase of 78% over

Oastler Michie, director of MSL, commented: "We don't monitor the specialist press. We have done so in the past but every time we bave found that the trend is mirrored in the nationals. "It is also interesting that this year the volume of advertising for

computer equipment sales people seems to be very high, and it is very noticeable that their salaries are going up fast."

These computer sales figures are integrated into the sales category and a more detailed breakdown of the figures is not possible.

... but computers will add to unemployment, warns US futurist

by George Black MORE jobs will be destroyed than created by computerisation from now on, American futurist Barl Joseph warned a London seminar.

"The real question is whether our institutions will change fast enough to create enough new jobs and my suspicion is that we won't," he said. "Unemployment vill grow as we try to cling to our

He was addressing the State of the Art Review put on by Perga-mon Inforech. Earl Joseph, who worked for Univac for 30 years and is now president of Anticipatory Science Inc in Minnesota, said we sembled for a co-operative net-

some of the most advanced pro-

ducts and to give the best value for

money, with eight our of 10 new British micros gaining a "worthy of attention" accolade.

The report is "What to Buy", published from King's Road, Lon-

less well, with only five out of 24

new products being deemed "worth a look". In the office auto-

mation stakes. Office Technology,

don, SW3.

The next decade would see very high-speed integrated circulta, ultra-large-scale integration, and machines that could recognise some strings of spoken words, he

Increasing reliability of products was another factor which was bound to add to unemployment.

The 1990s would bring rapid advance into expert systems. Already a medical diagnostic system called Internist was getting as good results as human doctors under

work of machines. "We'll have machines so smart they start to nag

The smart car, taking its own driving decisions and avoiding accidents, could be on the roads by

1984, because it would be "mil-lions of Big Brothers" who would be watching us. "We have to be very careful, therefore, how we set

The 1990s would also lead to a blending of electronic and biological research, with the invention

Although there is a rapid proll-feration of new technology, the processes for controlling it are ins-

The debate is dominated by proponents of innovation, and the general public and Parliament are ignorant of the decisions being taken by government which will affect everybody seriously; and this at a time when genuine options are available.

The report recommends a Select Committee for Science and Technology drawn from both the Lords and the Commons, that "will transcend departmental boundaries and examine in a more synoptic and coherent way the wider impli-cations of departmental policies."

Other recommendations are that

supply a computer to the Roy Society for Mentally Handisped Children and Adults. Rir att society's secretary-general. It ABS system will handle at counting for the society's exci-ing nationwide activities. ICL for Life contribution to policy at all levels ICL has fought off "fiere cont

expected these recommendations to be in practice, Professor Ken-neth Denbigh, director of the Council for Science and Society, commented, "It is a question of gradually putting across new ideas to the public. We don't expect immediate results, but we are putting a point of view which gradually gets assimilation into party

nology and Government will be equally influential, although it is more concerned with the British



technology says report

THE government, Parliament and

the public are not getting enough information on technology to make sound policy or have informed opinions on that policy.

This is the view of an independent think-tank of top academics in a report Technology and Government,* published by the Council for Science and Society less Science and Society last

equate, with more attention on short-term at the expense of long-

be more open government to allow more discussion, that Parliament should have more staff to cope with the information, and that the public and scientists should aupplier to Provident Life Assor

tion of London. Is a fl mis: contract the insurance companies ordered a dual 2958 to my nvolve themselves more in debatc. When asked how effective be its ICL 1900. The eight-megiallows a 2900 to run its OND LA operatiog system and the 193-compatible DME system to as transition to the newer range. Fans for Prime A PRIME Series 50 minicomp

analysis by James Howden E.
Company of Glasgow, The sperwill help with the developmental
large in and header and other tra-A previous report, New Technology: Society, Employment and Skill — a Study of the Effects of the New Technology on Work has, according to Denbigh, "been a great success. It has been adopted in technology on the Medical States of the States Pan Am viewdata Britain. We hope that Techand maintain viewdata rquipmed for Pan Am's new Panther ra for Pan Am's new Panhar is time airline booking system is gone to Visionhire Communitations, part of Electronic Rent The equipment includes the form editing terminal and Philips domestic and desk-400 viewing



Wilmot launches ICL Roadshow

is pushing Robb Wilmot's Net-worked Product Line concept very hard, discussing new features and elinements of most of its product line at a roadshow that will visit

fied, says the report.

The show is hauling £1 million

puter system, the Perq graphics

computer and the ME29.
Visitors can also ask ICL if it regards its Mitel-built DNX 2000 private branch exchange as a lot element in the company's networked systems design strategy.
Proof that ICL sees the DNX as

an important "foot in the door" in major organisations with little or no ICL equipment at present is provided by the company's recent hiring of a man from the telecomworth of hardware around the country and is billed as "the biggest promotional event ever un-dertaken by a computer company in the UK".

Attenders on any local series of the local series

the UK".

Attendees can ask ICL personnel about many things, including the company's greatly increased interest in the IBM market which is further underlined by Roger Hill, ICL's business manager for office systems, who has promised support for the IBM 3270 bisynchronous protocol and for Systems Network Architecture "within the next 12 months" on several products. These are the several products. These are the Manufacturers Association LAN

support" products, 8 fashionable industry buzzword, they should sak ICL staff to substantiate the prediction by their boss, Robb Wilmot, that 80% of decision processing data will ultimately be carried by LANs.

They can also ask for a detailed explanation of Wilmot's argument that baseband LAN technology, like ICL's Bthernet approach, is essentially a subset of broadband. Wilmot comments "There is a lot of misunderstanding about this issue in the United States," adding words to the effect that the debate about the relative marks of bear about the relative merits of base-band and broadband, and about which is going to be more popular, is largely irrelevant, baseband being a subset of the latter,

Attendees with a LAN interest can also inquire about the "numer-ous LAN projects planned by ICL over the next year", highlighted by Ninian Radie, sales director of pro-

Roadshow visitors can enquire about the 10-megabit LAN now in operation at ICL's West Gorton, Mancbester, development centre. If they are looking for "decision support" products, a fashionable industry buzzword, they should the voice for the company to the voice for sydney is the voice for sydney in the voice for sydney is the voice for sydney in the company to the voice for sydney is the voice for sydney in the voice, text and image support that Radie says are being added to ICL's Information Processing Architecture. IPA is roughly equivalent to 1BM's Systems Network

> duct, the DRS 20, achieved its first year's sales target in the first nine months, seconding to Roger Hill. He acknowledges that the multi-million pound orders from New York State and PAYE helped but also notes that sales of smaller numbers have also been made to other customers. Visitors to the roadshow can examine the latest enhancements to one of the newer DRS series terminals, the DRS Wordskil 8801, the former Nexos product. New is the capability to extract information from fixed format records using specific search criteria and to sort records into

Bombay control PHILIPS is to moderalst min control in Bombay following a order for a turnlery project one ing the installation and makes ance of traffic lights, switched systems and cables. Resting Architecture.

ICL's main existing LAN product, the DRS 20, achieved its microcomputers will control and intersections, while central are puters will co-ordinate the agest

tion of the smaller machines,

Job costing
THORNCROFT Made Series
Trace job costing dystem has be
trace job costing dystem has be
ken loto the local government as
ket with an order loop factors
in on the council of the loop
maintrame and replace in the
system, written in [CL] for loop
Plan loop uses

SALES BRIE

Counting on

after 31 years

A RELATIONSHIP dating hat to the birth of the comment computer industry is confined with an order for a Speny Uses 1100/84 mainframe for the II Bureau of Census. The \$35 max contract includes \$7 terming systems, 20 System 80 compant as remote batch terminals and policy.

laser printing systems.

The Bureau ordered the far

tition" from five leading US TIL

frame manufacturers to remin's

rilation and beating equipment

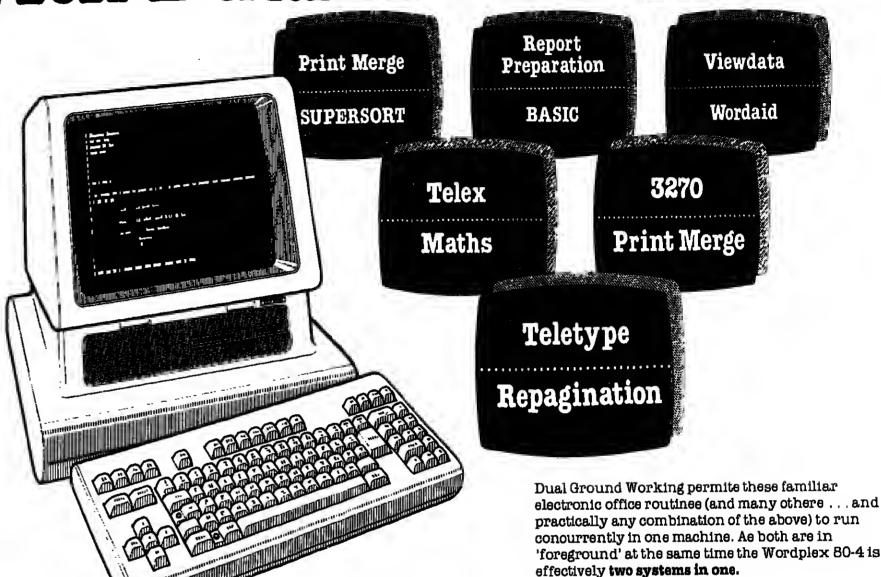
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Because of the unique, Wordplex-developed Gemini operating system's ability to provide Dual Ground Working the Wordplex 80-4 has the power of two systems in one.

The 80-4 has the additional benefit of Winchester disk storage — 10 MB capacity sealed disk unit — while transferable storage facilities are provided by a 500 KB

The system is completed with the 46 cps top-quality Echo character printer.

Wordplex provide a complete range of compatible and modular office systems. For example, additional applications software or workstations may be added to the 80-4. If even greater storage and processing power is required, the 80-4 system can be integrated with Wordplex shared-resource systems.

Development from one system to another is so smooth and logical that operators require instruction only on the additional facilities, resulting in much greater efficiency.

word processors office systems

Please send me more information on the Wordplex 80-4 with Dual Ground (Please return this coupon to) Richard Kemp, General Manager Wordplex Ltd, FREEPOST (No stamp required); Reading RG1 1BR; Telephone 0734 686842 Telex 848660.

Sirius name lost in Victor merger

by Robert Parry
THE blending of Sirius and Victor have merged.

The new company will he headed by Sirius Systems founder Chuck Peddle, and will be called

hutors of the different machine

and Victor operations in Europe will also be integrated under the

lished name in the office equip-ment area," saya Peddle. "There are more than 10 million products out there with the Victor name on,

leading distributor worldwide.



The formation of the new Victor

aidiary. Kidde has also put in public funding soon.

Victor will need this to compete with giants like IBM and DEC

"There is a crying demand h micro salcapeople and we are to ing to meet this," explained fra Hofer, course tutor in many ment studies. "Every high me will soon see a computer shop r! it is important that professed advice can be offered in each." The course will cover three min

Course to

give sales

DP training

hy John Riley
A GROWING problem facely
microcomputer retailen is facely
and training salespeople with
thorough understanding of to
machines and awareness of cotomer's differing software seal.
That is why the Polytechnic of
North Londoo in conjunction of
the Manpower Service Con-

the Manpower Services Cones

sion is setting up a pilot 21-ag

course to train computer of

digital electronics and company

commented that this goes it kn

some way to answering turn criticisms of Tops schemes.

Robin Bradbeer, who will but

staff

ing involvement with index

freezing wages for its 20,000 ero-ployees worldwide from the start "We do not see any immediate tun-up io the world economy,"

Intel to freeze its wages worldwide

CDC launches

starting in the fourth quarter of 1983. Derek Batey, a director of

the independent leasing company PCML, expects the price to be under £60,000 "sbout 85% of IBM

90%, CDC can be cheaper because of its market position as the world's largest OBM supplier of

disc drives.
The 33750 uses thin-film

read/write heads, and each device

disc assemblies and a single actua-tor per assembly making it field upgradeable to CDC 33800 apeci-

a CPU via CDC's own 33800 controller. All the plug-compatible disc suppliers are huilding their

He expects Memorex and STC

disc attack

by Kevan Pearson
CONTROL Data has faunched a

major attack on the IBM compati-ble disc market with an IBM 3375

type disc system, offering signifi-

cant performance increases over the IBM product, the company

The CDC 33750 follows CDC'a

return to the mainstream IBM disc

market earlier this year with the CDC 33800 compatible with

And 18M's fatest round of US price cuts on 3370s and 3375s could indicate that replacements

CDC's 33750 disc system is based on its 33800 products, which effer comparable performance to 18M's 3380, hut with IBM 3375 compatibility. Moreover, it allows users to upgrade directly to CDC 33800 specification without an expensive headware change.

The product is aimed primarily at the 4300 market, with deliveries

pensive hardware change.

are on the way.

1982 revenue Intel needs to find about \$120 million for R&D and \$150 million in capital equipment expenditure. Planned levels for 1983 are about \$150 million for

both of these.
"The choice is freeze wages or starve technology developmenta," says Grane. "We can't afford to stop the technology engine. I don't see our competitors cutting back."

Intel has done better on staffing than most of its US semiconductor rivals through the receession. While others, notably National Semiconductor and Texas Instruments, have been laying off em-ployees, Intel increased staffing

levels by nearly 3,000 last year, mainly in the US.

It did get them to work harder though, with its "125% solution".

NatSemi also froze wages last

For Buropean staff the coming freeze means normal annual rises will not happen next year - unless things look up during the year.

by Robert Parry

NEXT year will be as tough for semiconductor manufacturers as 1982 has been. Latest tn feel the drough for R&D and growth."

From the estimated \$880 million

The property of the periodic of the property of the periodic of the periodi ready in force. The rises will be dropped froro the beginning of 1983.

creasing concerning an impending disc announcement from IBM to replace the 3370 and 3375

machines. At the end of October. the company cut the purchase price of these products by up to 25% in the US, while some lease/-

rental rates were increased, by up

The industry expects IBM UK to follow with similar price

hanges before the end of the year.

IBM's 3370 and 3375 products are based on the same technology,

which is different from that

in the 3380. Consequently usera

cannot upgrade with changing the hardware. This is where the CDC

disc will acore beavily over IBM.
And according to Batey, some

users are also expecting an 1BM announcement. "We can already

offer cheap 3370s from users who

to 20% in one case.

own controllers rather than have order positions and have not

connecting through IBM's 3880 taken them up," he says. "Availamodel 13, according to PCML's bility is good. There are more boxes available in Europe than

Batey. boxes available in Meanwhile speculation is in-

Crane thinks this action will be enough to see Intel through — though claims no special skill with a crystal ball. "We feel things are about ss bad ss they can get. Any change will be positive."

Despite the slowness of the components market, and the relative health of Intel's system group, Crane insists Intel is a semiconduc-tor company "first, last, foremost and alwaya".

The aim is to continue shrinking down systems to fit first on a few circuit boards, then on VLSI chips. The ehips then become components for future board level products and systems, completing the circle of what Crane calls a echnology treadmill.

To do this successfully, and bring out components other com-panica will want to huy, needs regular interfaces and a com

'Word processors are bad for you' WORD processors are had for your health, and managers are to your health, and managers are to heavise they ignore ergo-

A NEW LA36 TERMINAL/PRINTER

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blame because they ignore ergo-momic factors. That is the warning from Alfred Marks in its Word Processing Salary Survey pub-

The findings, based on ques-tioning 132 companies and 98 operators, show an unacceptably high number of ailmenta among operators. Eye fatigue among 75%; headaches suffered by 55%; backache with 35%, together with pains in the arm and neck and

On top of this, stress was caused through bad management. Seventy-eight per cent of the Characters getting brighter.

should be no screen flicker and the contrast background should be of companies which did not train their WP operators at all, and who "Contact lens wearers have diffiwere left to get on with the joh.

culues initially as the concentra-John Grundy, chairman of the Occupational Visual Welfare Comtion reduces the hlink rate and the heat from the VDUs dries the mittee of the Association of Opticontact lenses out. The eye evencal Practitioners who has cotually compensates by producing authored several atudies of VDUs. more sears and the hlink rate does commented: "The ailments are increase when the operators are more relaxed," caused by a number of factors. One-third of the working population has uncorrected vision and Bernard Marks, chairman of the

Alfred Marks Group remarked: VDU. Glare is certainly a proh-"Management fail to take the most elementary steps to maximise the benefit from their equipment."

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MAINTENANCE /

FOR 12 MONTHS

Systems Technology – developer of the top-selling 16-bit micro in the UK – and the US company with the Victor 9000, will cootinue selling the machine under its own in competition. The new Victor label, Victor Business Products, will honour contractual commit-

dropped in the US because of a US, where sales of the machine legal ruling over possible confu-sion with a previously formed company, Sirius Software, which

ments with European Victor distri-butors like DRG, as well as supporting established Sirius distributors and subsidiaries.

Greatest changes will be in the

Systems range, handing over its network of 52 dealers to NEC.

Going direct to the dealers has enabled NEC to increase the

last year represent no more than two per cent of the UK business

microcomputer market, while its

rival Sharp has sold 3,000 to 4,000

"Victor has 65 years as an estab-

and we're going to build on that hrand identity.'

In revitalising the Victor marketing, Peddle will be trying hard to emulate ACT's methods and success in expanding the market for the machine. "ACT is our leading dissipation wouldwide."

spearheaded hy ACT, which showed other Sirius dealers how to bring the machine to the market. 1 intend to make eight to 10 ACTs in

involved transfer of more than \$50 million assets from the Kidde Corporation, of which Victor Business

another \$30 million funding, and Peddle intends to seek further

and the newer publicly-funded micro companies like Convergent

areas: computing, bution knowledge, and marketing, rithe teaching will involve entering use of a wide range of mirrore puters. The three main man Bradbeer, Hofer and Sarry Manager of the state of the (who will teach business stute. have about 60 years' compact experience between them, and a phasise that they all have cone. through regular consulting Bradbeer and Miles were writer in the design of the firm le

The first course will sun February 7, and will cate feb. 20 people, aged over 25 years at least two years' industrit : business experience, and 0 is: in Maths and English.

NEC to run own UK distribution go up-market with the US-made Unix-compatible 16-hit Fortune

by Donald Kennett
JAPAN'S biggest micro maker is
set to run its own UK puah. NEC
Telecommunications, maker of the PC-8000 range of CP/M-compatible microcamputers, has set up its own UK distribution team.

dealers' margin and lower the suggested retail prices at the same Management is disappointed that only 1,000 of the systems were "The industry standard dealer discount is 30% to 35%," says UK computer division general man-ager Gary Mason. "Ours is considsold in its first year of trading in the UK through the dealer net-work set up on its behalf by Reading-based distributor IBR erahly more. We want to get up to 100 dealers as soon as possible. The 1,000 systems sold in the

Microcomputers.

Meanwhile in its native Japan,
NEC tops the league with 40% of
the market — double the share of its nearest rival, Sharp.
Both IBR and NEC agreed they

year after year.

were hampered hy having too many levels in the distribution

'Liberation for users'

"We believe the number one company will have 30% and the number four will have 20%," says sales manager Mike Flashman, "We will definitely be one of those four."

Mason, who joined NEC in July after five years at Centronics and 10 years at Olivetu before that, says: "We sell an overall solution. The system will do s user's payroll or his invoicing and we will make sure the dealer has what we believe will enable him to sell it training, videocassettes, documen-

"One of the failings of all com-panies has been lack of software." rmany levels in the distribution chain, leaving too small a margin for each.

IBR has bowed out gracefully to Systems. NEC, however, claims 25% to 30% of the printer and peripherals market and is confident of copying this success in the counting and word processing packages and expects to have 12 by the end of the year.

strike action would be reduced by

THE new telecommunications standard to be introduced in 1984 user, said Richard Lindenmuth, vice-president of Burroughs

Imaging Systems Division.

Speaking at Pergamon's State of the Art Review in London, he said the introduction of the Group communications standard by CCITT, the international atandards authority, would bring a significant growth of the market, adding: "It's the biggest thing that going to happen in quite s while."

Warning against an excess of cauton, Lindenmuth said firms

should start buying office automation equipment now: "You wouldn't put off huying s car until cars were perfected. The same sp-plies to office machines. It's the learning process that counts."

(0734) 25533.

the transition from mainframes to micros, he said. "Seamleas" systems which awitched from one operating system to another and could call routines from a variety of nperating systems were only about a year away. But lack of software standardisa-

unn was likely to continue for sev-

eral years.
Lindenmuth was scepucal about the impact of Japanese computers on the West, attributing reports of the progress of the fifth generation

project to "fear of the unknown".
"We will always be one step ahead," he prophesied. Office automation was going to change the nature of many johs, said Lindenmuth, predicting that secretaries would he upgraded and typists would become rare.

You've seen the picture. Now read the book.

Union calls:

This "laner fortress is the key-

anner fortress is the keymote of the Stand Up for Britain
campaign initisted by the half millio o strong Electrical snd
Electrocic Telecommunications
and Plumbing Union.
Chairman of the campaign, Eric
Hummond, said: "We all have to
tand up for British industry because if we continue as we are
we're stopping employment prospects in all industries including
computing."

computing.

In getting our message scross we want to hreak out of the narrow Labour Party — TUC arena. There is a strong feeling that the rask union movement is rather negative in its argument about unemployment, and the Labour Party is inconsistent in its stritude to it.

"It is easy to say that the govern-ment is entirely responsible for nomployment but we must re-member that it has arisen over suc-cessive governments."



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to meet the exact specification of your Digital system? You'll find literally hundreds of items in the latest Stand Up edition of DECdirect, our Accessories and Supplies for Britain Group catalogue. by John Riley
THE computer industry is an integral part of the "inner fortress" of hirith industry which must be defeaded at all costs against countries which deny us equitable economic access. From anti-static mats to fire-proof disc safes. And everything in between. Of course we have all those other supplies like

paper, magnetic media, binders and print wheels. Now buying exactly the right Digital accessories

is as easy as phoning and ordering directly.

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been carefully designed and built to perform reliably

If you own a Digital computer you'll know that it's



Al Rogers and Anne Hawkes ... the transatlantic partnership that aimed to put UK computer staff into US rabs

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Middle East

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Implementing a word processing network.

M. Keni, Project Leader, Computer Services
Division, ADMA OPCO.

Creating an Arabic database. Christian Vesterby, Project Manager, Tom Pederset

implications for regional expansian. To bring bame the Arab experience spaskers will include leading industry

experts and users from the region. Their knowledge will provide a true

The two-day confarence covers the spectrum of Middle East development Computer usurs — large and small, now and experienced—will find the tresontations releases.

presentations resevant.
The theme of this year's conference is the Arab experience. It will look at how local databases are boing implemented, and how office automation is taking thape in the

The road to Yankee gold is often full of pot-holes, as Boris Sedacca's cautionary tale for contractors relates

US link looked like a good deal—but wasn't

Charlton.

Weekly carried a story about the activities of a Hollywood contract

terviews took place, Rogers was should not have come out of the asking for money on the table from candidates to cover expenses for a to be resolved between ounces. agency called International Management Consultants which was recruiting UK computer staff to work in the US.

IMC wes eperating through a local contract agency called Com-puter Software Services, an outfit licensed in accordance with the Department of Employment but not registered as a limited liability

company.

CSS proprietor Anne Hawkes was approached by IMC president Al Rogers to interview UK computer staff for jobs in the US, jobs which did not materialise save two Naturally the whole operation

incurred some expenses and neither Hawkes nor Rogers wants to pick up the tab. The diapute may seem irrelevant were it not for the fact that at the time the in-

conference. Published by IPC, the world's largest business publishing bouse, MEC is an associate of Computer Weekly, and circulates to

This major event takes place during the Gulf Computer Exhibition which will be held within the Dubai International Trade Cantre from December 13-16 1982.

12.30 Panel discussion

18.45 Panel discussion

16.43 Minimanance and support of computer systems. All Mousel, Managing Director National Enterprise for Computer Services

DON'T MISS THE 2nd

Gulf Computer Exhibition

December 13-16, 1962 - Dubol Trade Centro

13.00 Lanch

to be resolved between oursels law firm to which IMC is affiland she had no authority to use !

Bernard Webber. The rest was in

the form of cheques made out to

Webber were asked for £55, while

married candidates were asked for £110. One unfortunate candidate,

David Parsons, was told by Rogers

that if he wanted to take his fiancee

with him to the US, he would have

to get married first and handed

Weekly in early October to say

that neither Hawkes nor Rogers had replied to his letters request-

ing a refund, and that both Anne

Hawkes' telephone numbers on

CSS letterhead were now unobtsi-

Computer Weekly called The Immigration Clinic's office on Sunset Boulevard but Rogers initi-

ally proved reluctant to talk. A

colleague, Frank Ronzlo, provided

s new telephone number where Hawkes could be contacted, add-

ing that a cheque had been sent to

her for the money which they

"They sent me a cheque for

\$3,000 but in their covering letter,

hey said the enclosed cheque was

cash the cheque, I would be

deemed to have accepted their offer in full settlement of my claim

against them. What they should be

reimbursing is closer to \$5,000 be-

cause out of the £3,960 taken from

andidates £2,838 was taken out of

the IMC UK account by Al Rog-

Rogers denies having taken money out of the IMC UK ac-count. "The only people who

could take money out of the ac-count were Anne Hawkes and

David Charlton, and Charlton did

not draw any money out while he

was still in our employment al-though he may have done when he

vent to work for Anne Hawkes,"

"What Anne Hawkes did to pay

"They also said that if I were to

fnr \$3,500," said Hawkes.

owed her.

candidates' money."

The legal deadlock area the imposed term of common written into IMC's letters Rogers also wears another hat as legal administrator for this firm, called The Immigration Clinic, Hawkes claims that a total of Hawkes, to the effect that be £3,960 was taken from 44 candicashing the cheque for \$3,00 would imply her acceptance of the sum as full settlement of her chin dates to cover "immigration costs and visas". Until the dispute is resolved they are unlikely to get Such s term is invalid in English law but according to Roger is a commonly accepted practice in & their money back This money was put into a bank account in the UK, opened under the name IMC UK. Hawkes was

So although Hawkes could reaburse some of the candidates a full or all of the candidates in pa one of the aignatories to the account, the other being an employee of Rogers's at IMC, David with the money she has so far a ceived, by so doing the work Rogers claims only £55 was taken in cash from one candidate.

On the other hand, Rogers feet that there are many expense claimed by Hawkes which his fr does not accept responsibility advanced to me but \$3,000 relica what we consider to be while owed to her for expenses, mil on hotels and conference fai ues," he said.

"I cannot recall any cath it vances to me. There may be been some, but only minor one.

Rogers would not confirm annount of \$3,960 which was not from candidates, "I do not be the figures in front of me. 3 said. As for the discrepany between the cheque for \$3,000 cl the amount of \$3,500 which is covering letter said the chaque 12 for, Rogers admits to having mi

While both sides of the dist. argue over who takes tespone ity for the expenses, over 1017 computer staff are out of poths Ann Hawkes has now writen all of them to explain her sinus prompted by Computer Web intervention.

She is suing Rogers, IMC in the Immigration Clinic, but is told candidates they will say expected to contribute to the contribute to the contribute to the court. So claims she was against the ide of taking money from them in tr

The question of signing possion the IMC UK account is on which Hawkes does not well discuss in detail. "I know six wiscuss in detail. "I know that way I am going legally with the and I do not want to leopardischip process by saying anything sor."

In the meantime, over should candidates are out of pocket all still waiting in the UK. "I should emphasise that my plans to go the US are unchanged, but I so longer want to do it with agency," said Webber.

Parsons added: "I have gired who pe of ever going now, I am a putting it out of my mind."

applications.

The idea is to grow upwards," start with two or three packages on the time sharing machine and then progress from that to the IBM PC.

over 30 countries around the Other schemes have included a control advisory program for West Germany and Australia, gas distribution systems for Bangia Desh, a

micros?

interpreter cause VIZ::APL, which gives a workspace of one megabyte on an 8-bit machine. The interpreter has the backing of Berisford Information Tech-

At the same time IPL is making APL available on an IBM Personal omputer for Tesco, where it is

undergoing testing.

Director Dominic Murphy aaid:
"We intend to break the mould by
introducing an 8-bit implementa-APL on a footing with Cobol or Fortran. There ought to be a significant impact in the schools.

roadshow at London Imperial College where new language products were launched at an exhibition and

Dyadic Systems presented ortable version running under Unix at the show and Dsta General showed a version compatible with Sharp APL and APL*PLUS. MicroAPL introduced its 16-bit ready led the way by setting up its Scimitar model.

Variety of hardware on Amexon 'growth path'

by Claire Gooding
ABILITY to grow in computing power without changing spplica-tions is the main lure thrown out to wers by a new British company,

SOFTWARE FILE

by George Black
EXPERT opinions conflict about
the lively impact of the APL lan-

guage on the micro market.

Romilly Cocking, of Cocking and Drury, the APL programming

consultancy and support agency, forecast confidently that APL would displace Basic as the main

micro language within five years.
"It has taken ten years for APL

to reach the micro and we are al-

ways fighting against the conserva-

tism of programmers," he said.
"But the breakthrough is at hand."

However, Dyadic Systems' Phil

Gozcher, was more wary. "I think Basic will continue to be a major force in the home computing and

educational field, but APL is going to prove much more flexible for

Mcanwhile Inner Product

Limited is planning an invasion of the schools by giving the language free in the apring term of next year. First takers will be the Inner

London Education Authority.

Westminster City School bas al-

the business world," he said.

How will

APL affect

Amezon.
Applications which grow with the accds of the user are rare more innusual cough. What is more unusual about the service offered by Amexon Communications and Computer Systems is that it is using a variety of hardware in its

growth path" policy.
Users can move from a Unixbased time sharing aystem based on the Plexus super micro, run-ning Unix System III operating system, to their own single-user or fully fledged multi-user 16-bit

The single user machine initially on offer will be the IBM Personal Computer, for whieb Amexon is a UK distributor. The in-bouse multi-user system will be Unixbased minicomputers, sold with

explained managing director John Dobson. "Maybe the user will

The company further up the scale, with 500 or more employees, is going to need its own machine, but the ultra-small company of four people who just need some way of keeping the books will still have access to good software with the potential to move onto a single-

user system.
"There's really no such thing as a typical tiser — the range of a service like this is difficult to des-Amexon has already negotiated

vith several software houses to be able to offer a variety of Unix-

based applications.

It will be offering accounting packages from London software house Bonsai, some being Anglicised versions of US packages written in Ryan McParland Cobol. Sales ledger, purchase ledger, gen-eral ledger, inventory control and

order entry are also on the list.

Amexon will be supplying the
Xed word processing package
from one of the first British software houses specialising in Unix Precision Software, and taking na a financial planning package from the newly-formed software enterprise run by one time hardware lessor Itcl.

Dutiel O British Gas exports



A COMBINATION of private and public enterprise is helping to exprise and port British software knowledge.

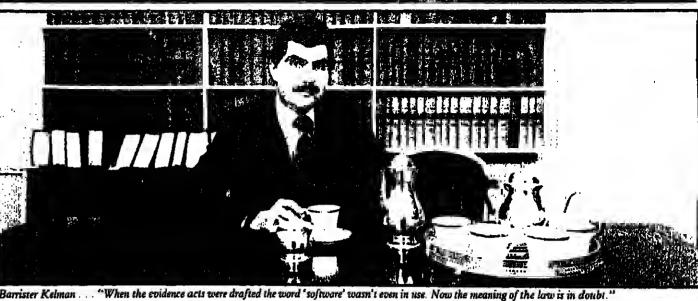
British Gas's International Consultancy Service has been tearning up with UK firms who act as making the projects in developing countries.

To MBINATION of private and object the systems for Bangus Deals, a pipe atress analysis program for Hangus Deals, a pipe atress analysis program for Australia, a feasibility study for Dubai and a safety audit for Hong Kong.

But the highly developed Japantel Projects in developing countries.

system installed by William Press in the suburbs of Cairo.

The consultancy has been in operation since 1970 and now earns up to £8 million a year in



UK firms wide open to fraud, says Kelman

by George Black MANY British firms are at the mercy of unscrupulous employees because their systems are inadequately documented, a British Computer Society meeting hesrd The evidence that could be pro-

duced against an internal fraud was so flimsy it would be thrown out of court, said Alistair Kelman, barrister specialising in computer

puter installations, the meeting Yet there were very few British was told by Richard Sizer, co-

author with Kelman of the book

should keep comprehensive either non-existent or out-of-date. records of its hardware, operating systems and software as well as of the skills of all the personnel involved and a logbook of faulta and updates. Methods used to test the systems should also be accurstely set down. Only thus was there any chance of convincing a Fraud was now endemic in com-uter installations, the meeting Yet there were very few British

The Computer in Court.

Kelman said every installation put forward an acceptable legal case. Documentation was often

Kelman recommended changes in the lsw to bring together the civil and criminal evidence Acts, making specific mention of the admissibility of aoftware in court.
"When the Acts were drafted the word 'software' waan't even in

meaning of the law is in doubt." If printout was to be called in evidence the fact should be stated

£36,000 to develop

at committal proceedings, he argued. Nobody could even say at present whether computer evi ience was to be treated as real

evidence nr as hearsay.

Sizer said: "Many systems can
be penetrated by staff who are
barely literate. And the position will get worse and worse. Looking little evidence of the growth of computer fraud. But that's not surprising because until recently the official form had no box tn record this category of crime.

Pegasus venture takes off

by John Kavanagh
JOHNNIE JOHNSON is enjoying the move from programmer to managing director at Pegaaus Software: in its first seven months the microcomputer software firm has reached a turnover of £162,000 and a trading profit of £63,000. It is aiming at sales of £450,000 and s £200,000 profit in the next year.

Pegastis was formed in January by microcomputer retailer HB Computers to sell the Pegaaus accounting and stock control package developed by Johnson, who was made top man. The system, written in Bssic, runs on the Commodore 8000, the ACT Sirius, the DRG Victor 9000 and the Sharp 3201. A version for the CP/M operating system is also available. The system is sold through 250

retailers.



JOHNSON: From programmer to

managing director. "It's been a bit of a hassle moving to mansgement," said Johnson "it takes you away from ancillary staff. the technical aide and I rather miss

Systems, but Manchester University's project at Barlow Medical Centre is based on a nine-terminal Multicomputer M200 which will be used by four doctors and their

The official systems are from CAP and British Medical Data

University medical computing and computer science department

software for doctors sble to other practices.

by Donald Kennett MANCHESTER University has teamed up with a local group of doctors to develop CP/M-compati-The Centre's senior partner, De Clifford Kay, was chairman of the Royal College of General Practible software for general practitiontioners' computer working party which two years sgo recommended The project is backed by a

using a local computer network in £36,000 grant for equipment from the Department of Health and Social Security, despite the fact develop a multi-user system for The M200 is made by Molccular that the doctors have picked a micro which is not one of the two Computer in the US. It enables up to 255 users to share hard disc systems made svailable to 150 selected practices under the £2.5 million Micros For GPs Scheme

storage and printers while each having their own 64 Kbyic Z80 processor housed in the central system. It runs a CP/M-compatible operating system. An important factor in the

selection of the M200 for Barlnw Medical Centre was that provide the resilience of a the Centre can have a back-up and computer science department copy of all its records on a second staff will write programs for the 20 Mbyte Winchester disc.

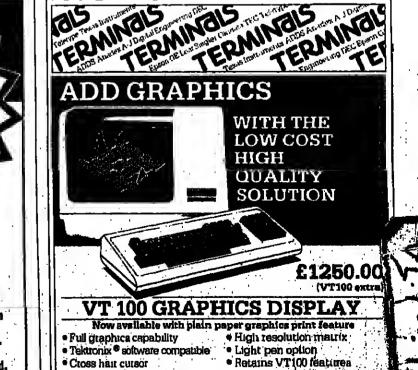
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Trade Centre Management Company PO Box 9292, Oubal United Arab Emiletes Tel. 472200 Telex 47474 OFFC EM 11.45 Development of A rabic computer systeors. Psam Samara, General Manager, ICS 13-00 Lnoch A SA RARRA RARRA RARRA RARRA SA RARRA R Registration to be hald in the Tipest Theure, level 3. Dubai International Trade Craure, Dubai UAF in Torsday and Wednesday. December 14th and 19th, 1982. The fee of UAE Dish 1958 or US \$400 per person Includes surndance at the coolerence, documentation, morning collectuars and herefore has on book days. Delegates may after 400 on the yOMY as a see of UAE Dish 85st or US 1220 per person including refreshments and decomposates. Please complete in CA PITALS and send to Ina Brug, Gull I'corpuser Conference. Trade Centre Management Company. Dobb International Trade Centre. PO Box 1/292. Dubal. UAF Teles 47:174 DITC EM Tel 4722int Indicate which days by liching the relevant bas I wish to stread both days December I 4thr I 5th at Dist 155014001 I wish to stread used by ONLY December I 4th at Dist 85012288 s in Bonnell, Conference Organiser, Surrey Huste, Chrosley Way, Suston, Surrey SMI 4QO, Brighard Telephane Oli 18 th SHEstenboon, 1489 or 4891 Telephane Oli 18 th SHEstenboon 1489 or 4891 Telephane Conference planes to the Ind Guill Company Conference n Dir kris i 530 Tarri totticu (530

10.30 Collee

18.45 Pagel discussion.

Wednesday

00.30 Registration of delegates

15th December

09:00 First systems The laters facing a company setting up in first computer systems. Dr A. H O Saad, Information/Computer Services Manages, Quar General Petroleum Campany.

11.00 Inseractive graphics. Mario Boxuro, Managing Director, Calcomp ME & A

Gargery

With the rapid growth of computing throughout the Middle East, it is essential that purchasing decisions are made an the basis of impartial, objective information. The Second Gulf Computar Conference provides the opportunity to keep up to date with the latest developments in computing the subsections.

Programme

Tuesday

08.11 Registration of delegates

09.00 Cilicini opening

14th December

Keynote speech: Computing Development in the Middle East. Almed Hussan, Dan Processing Manager, Dept of Health and Medical Services, Duba, and founder of Data Pracessing Management Association.

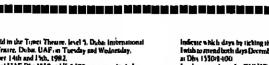
ats communications. Dr Ali Al Masha hrector General , Arab Satellare

communications natwork in the Middle East. Charles Allen, Managong Oirector, Gull Computing Systems.

11.45 Local new networks. V.E. Chrong, Consultant, Scient Ltd.

12.30 Panel discussion

The are of smallicer - Arabas, its rions for telec



Tétephone

ane day ONLY December 15th The fee is payable in invance and cheque should be made payable so Dubii Trade Centre Menapement Company

The State of the S

ROGBRS ... soni \$3,000 "by mistake", gioling rise to line des

Computer applications ones for ICS. As well as specialist programs play a part in many of it was ICS which provided the backup software for a new one in management information are instituted in the instrumental comments and management information are instituted of the institute of the institute in the institute of the institute sackup software for a new gas marketed overseas.

Growth slips for some US giants

A MIXED bag is the only way m describe recent financial results from the US.

A rise of 10% in new orders, from last years' \$218 million to \$239 million, is the only bright spot in first quarter results from Connecticut semiconductor and 32 connecticut semiconduct

shield against any sudden swing in the economic climate, was down from \$447 million on October 1

strong performance on this side of the Atlantic. last year, to \$405 million.

Reporting on the results Robert Sorensen, chairman and chief executive, said orders were ahead in all the company's main divisions including semiconductor processing equipment, minicomputers and electro-optical equipment. Only the West German sub-

sidiary, in line with the experience of many US companies trading there, showed a fall in orders for analytical instruments and for thermal sprays,

Wang, for long one of the industry's leading growth companies, results, but growth showed a significant drop on the 40% of the last

two years.
The Massachusetta based

C\$53.3 million, a 33% rise on the previous year's C\$40.2 million.

Profits did even better. Gandalf founder and president Desmond Cunningham reports profits of C\$6.69 million for 1982 compared with C\$4.1 million in 1981.

Cunningham also disclosed a big gain in productivity with employ-

ment at Gandalf rising by only 25%, while profits went up by

communications equipment and over 37% of its business is based

on its PACX product line which includes the Pacnex switching

system introduced earlier this

processor, which comes complete

with routeing software and the

ability to use voice and data on the

same line. This is the core of Gan-

dalf's increasingly complex pro-

sion and R&D.

dalf's entire business.

expenditure to C\$4.2 million.

sales revenues and Cunninghan

says the company intends to spend

Sales turnover also fell, from \$251 million to \$235.2 million, a 6% lower outcome than in the same period last year.

In sharp contrast with most US Order backlog, a significant corporations operating in Europe,

And the company beat off the adverse effects of a strengthening dollar to show improvements in both pre- and after-tax margins compared with last year, according

to Dr Wang.
The slowdown at Tandem, noted earlier this year by various New York financial commenta-

Sales for the fourth quarter were \$91.1 million, compared with \$64.5 million for the period ended

Although there was a slight fall minicomputer manufacturer, year, to \$13.8 million for the same those installed in earlier years.

improvement in the after-tax posi-tion, from \$8.2 million, to \$9.5

last year.

Profits stayed on a higher growth path, increasing 39% to Connecticut semiconductor and 32 bit mini maker Perkin Elmer.

The company reported a 41% fall in profits for the period ended October.

Sales turnous is the only bright ast year.

In the same period million.

The maintenance of the profit figure, which showed no real increase on last year, was substantially due to a fall in interest charges paid by the company on its loans from \$2.2 million, to \$2.2 million.

The maintenance of the profit figure, which showed no real increase on last year, was substantially due to a fall in interest charges paid by the company on its loans from \$2.2 million.

The fourth quarter slowdown had little impact on the full year's showed sales 61% ahead \$335.8 million, compared with \$208.3 million for the full year ended Sep-tember 1981. Profits were 40% shead at \$37.2 million.

The volume of capital and R&D expenditure of Tandem continued at a very high level, especially for a company of its size.

James G. Treybig, the com-pany's founder and president, has always been heavily committed to the future, and in the annual reaults he recorded \$33 million, nearly 10% of turnover, as expenditure on new R&D. Capital expenditure on new plant and equip-ment was \$63 million. John Louth, Tandem's UK

managing director, who has just moved up the company to take over responsibility for Holland, Belgium and Isrsel, said that busi-Although there was a slight fall in ress was very good. Last year in pre-tax profits, from \$14.8 million in the final quarter of last trebled, a number equal to all

Profits and sales up at Gandalf ONTARIO-based Gandalf, the telecoms ampplier with a UK manufacturing plant at Warrington, has upped profits and sales for 1982, according to the annual report just released.

Sales in Canadian dollars were

Cashing in on bank clearance procedures

manual clearance of pay-in slips at the end of next year, printing stan-dards will have to be tightened. The result could be a boom for the peopie who make the encoded, machine-readable documents - or for those who market the machinery to produce them.

Among those who do both is Rochford-Thomson International, The company has seen growth in two other areas, mobile radio whose UK home is in Newbury. systems and radio modems. RT has announced an automatic Gandalf went public for the first inishing station controlled by an time earlier this year and raised over C\$21 million to fund expan-OEM mi

The Wescode AFS cuts, collates, stitches and binds the books Sales in the UK rose from C\$4.5 of personalised stationery. illion in 1981, to C\$6 million in

These days anyone can make 1982, a 33% increase in volume. hardware," said managing director Roy Rochford, but it's the soft-Sales in the US came to C\$27 million, a little over balf of Ganware that provides the machine's Between 1981 and 1982 the

flexibility."

Cheques have been cleared automatically for some time. Now the company doubled its noticeably low spending on R&D, boosting banks have agreed to do the same R&D prior to that was 5.4% of

'Many companies which produce their own transfer slips will have to make sure they are up an increased amount on R&D this to standard," said Rochford.

Other growing uses of their equipment and of the Assembler language software include television rental books, building society transactions, council house rent books, mail orders and insurance premiums. The arrival of building

society cheque books could give a further boost to the market. RT programmers provide a bureau service worldwide. The Wescode 2200 with floppy disc or key input and two dalay-wheel printers in tandem, is already

widely used by banks and local authorities. Now RT has also model, the 3300, for either magnetic ink character or optical charac-

"This is for the smaller jobs rather than the volume throughput which the 2200 can handle. We hope it will make an impact on the credit slip market," said technical director Chris Scorey

The printer can turn out up to 2,000 cheques or slips an hour. Scorey was cautious about laser printing. "We think it's too soon to make such a massive invest-



LOUTH . . , Tandem installation in UK trebled in past year.

Americans get most of development grants

US COMPANIES are taking the ion's share of development grants for high technology companies in the UK, and most of those are in

In the second quarter of 1982 US companies took almost £2 milion in development grants, with IBM receiving most - a total of £1,389 million, in aeveral discrete

A spokesman for the company said the grants were for "normal capital investment" at the plant, and are paid in arrears so it was impossible to say how the money

HP hoists its profits

HEWLETT PACKARD has followed the glamorotia \$1 million launch at Compec of its 32-bit desk-top machine with the announcement of impressive full year figures abowing sales up 19% and past the \$4bn mark, and profits 25% up on last year at \$383 million.

crease came from the tax concessions made by President Reagan.

Given HP's relative size, and the difficulty of maintaining high levels of growth with more than 67,000 on the payroll, performance this year is likely to be better than even such growth oriented companies as DEC.

Young attributed much of the strongly held growth to good cusnew products introduced in 1981

In the final quarter, ended Octo-ber 30, Young reported that HP had pulled in over \$1bn worth of orders, 18% up on last year.



YOUNG ... Over \$1 billion worth

Khan assets may not cover costs of liquidator THE liquidators of collapsed in

mingham computer computer Micro Xeno are still until whether enough assets remain o the company to pay for their well

A spokesman at Laurence Gerard, the London-based across tants handling the affair, said to a preliminary survey showed deco with liabilities standing at amed £480,000. The spokesman emphasized its this was an initial impression.

According to one report most the documents relating to his Xeno's affairs were handed over the Ministry of Defence, shirt has expressed puzzlement.

Bart Khan managing directed

Micro Xeno, did oo work coo ted with national security and is Ministry could find no record a any documents given to say of p establishments in or around &

mingham.
The sole remaining directed Micro Xeno, Brian Cartmill, ac lodgings without a phone, as a the Micro Xeno phones have be disconnected.

The liquidators seemed use: whether they would be shirt prepare a report, parily because the lack of documents and para-because of the lack of cish to pu their staff to produce a document

Although the liquidators has list of shareholders in Micro Xes. they were not prepared to diss's the contents of the document. Barclays Bank is owel the not emerged in any number (2)

four attended the creditor con

ing on November 9. Khan and his technical en turer. NatSemi received over Ray Baker, did not sheel ce creditors' meeting and base or been seen since early in October £250,000, also carmarked for the

SHARES TABLE

which the grants are awarded is

All of IBM's grants were ear-marked for its Greenock plant,

The company has recently expanded at Greenock, and it is ex-

pected that the Personal Computer

will be built there after it has been

launched in Europe, early in 1983.

grants is National Semiconductor, the troubled US chip manufac-

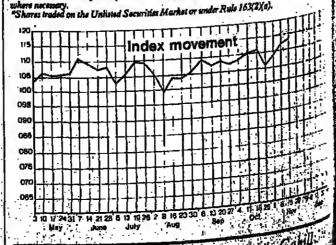
Another significant receiver of

that they are used to create jobs.

The shares table, which is specially compiled for Computer Weshingles selected computer companies that reflect the state of the computer what

	Pence		London Stock	Pe	100	•		US Proce	Ma 5V		
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The table shows the cloring prices in London on Friday and in America on Thursday Index is based on the prices of the UK companies in the table, Highs and Loca him has where necessary. there necessary. Shares traded on the Uniteted Securities Market or under Rule 163(2)(e).



Company News is compiled by Kevin Cahille

'Personal mainframe' puts HP on 32-bit map

THE 32-bit microcomputer has arnived. Not that the HP 9000 series unveiled by Hewlett-Packard last week will be styled a microcomputer. Terms like "personal main-frame" and "integrated workstation" seem to be preferred.

But the form of the machine is little different from the standard eight-bit microcomputer or personal computer; it just has some-thing like 100 times the power – and in some cases 100 times the

The 9000 centres around the 32-bit CPU chip shown off by HP at the International Solid State Cir-cuit Conference this year and last year. This is one of five high denity VLSI devices built by HP at. relopment of which went hand in hand with a project aimed at the engineering workstation type of

product.
"The HP 9000 is the culmina-tion of our largest R&D project

ust another 32-bit machine. The VLSI technology developed has allowed the mainframe power to be shrunk to fit a desk-top unit, and to come dowe to a price range where it is fessible to give engi-neers and scientists their own per-sonal machines — assuming desktop workstations at £20,000 to £45,000 fit ideas of feasibility.

The chip set is manufactured in a NMOS process, called NMOSgraphy to produce 1.5 micron circuit features with 1 micron spac-ings. HP claims the devices are up to eight times denser than other chips available on the market.

Along with the 32-bit CPU comes an input/output processor, a

ever," says HP's president and chief executive officer John Young. "It has cost bundreds of millions of dollars, and we have been working at it since the mid-1970s."

For HP, the 9000 is more than the property of integration dramatically reduces the chip count for the full computer system: 98 chips for an exercise of the chip count for the full computer system: 98 chips for an exercise of the chip count for the full computer system: 98 chips for an exercise of the chip count for the full computer system: 98 chips for an exercise of the chip country and the chip country and the chip country are system; 98 chips for an exercise of the chip country and the chip country are system; 98 chips for an exercise of the chip country and a 128K RAM — the highest capacity RAM yet to be used in a commercial product. All are produced in NMOS-III. The high level of integration dramatically reduced in the chip capacity RAM is a commercial product. All are produced in NMOS-III. The high level of integration dramatically reduced in the chip capacity RAM is a commercial product. All are produced in NMOS-III. The high level of integration dramatically reduced in the chip capacity RAM is a commercial product. All are produced in NMOS-III. The high level of integration dramatically reduced in the chip capacity RAM is a commercial product. All are product and the chip capacity RAM is a commercial product. All are product and the chip capacity RAM is a commercial product. All are product and the chip capacity RAM is a commercial product. All are product and the chip capacity RAM is a commercial product. All are product and the chip capacity RAM is a commercial product. All are product and the chip capacity RAM is a commercial product. All are product and the chip capacity RAM is a commercial product. All are product and the chip capacity RAM is a commercial product. All are product and the chip capacity RAM is a commercial product. All are product and the chip capacity RAM is a commercial product. All are product and the chip capacity computer system: 98 chips for an HP 9000 with one Mbyte of main memory rather than 5,000 in rival

> The chip set will not be offered on the merchant semiconductor market — the only way to get hold of the chips is to buy an HP 9000 — but the NMOS-III technology will spread through other ranges of

Other developments will include increased density memories, with 256K and theo 512K chips likely to appear next year, allowing ex-pansion of the current 21/2 Mbyte limit on main memory in the desktop system. At the moment this is limited by the number of board slots available in the card cage and mini market.

As a major

Gould SEL present

Concept 32—the

super minicomputers.

world's most powerful family of 32 bit

Concept 32 is a full range of

compatible processors for both end

user and OEM's. A reliable family

division of the

\$2.2 billion inter-

national Gould

Corporation,

crammed on to each board.

tied to the one particular machine Integrated circuits are not typically designed with a specific end product in mind. But from the word go the chip design, production process and HP 9000 system archi-

ter," says Paul Ely, general man-ager of the computer systems group. "It gives much more power at lower cost per user. We've got to convince users that the old way of doing engineering computing, time sharing a mainframe, is not But Ely does not see the

mainframes in the long run. HP is rather out to topple the DEC VAX machines from their pole position in the scientific and engineering



ELY . . . A different kind of computer from HP.

Speech recognition in Europe about to boom

This European market for speech recognition and synthesia equipment is set to boom, despite its chaotic and uncertain state at the moment. The market is expected to push past \$1,000 million by 1990, according to a report* from US research firm International Retoute Development, but will soon the dominated by non-Buropean manufacturers, principally NEC, Fifths and Texas Instruments.

But while speech recognition work by these US and Japanese suppliers teeds to focus on data early applications, European eyes are looking to the possibilities of automatic translation systems.

There is genuine high level in-terest within the BEC bureaucracy n iponsoring such systems, says the report, though it remains peselopment in the near future.

The spur to data entry applications development is the increasing complexity of military equipment, particularly aircraft, that are dependent on computers and need better ways of communicating with the computers than pushing keys on a keyboard.

in this country work on speech

Speech Recognition Club at the National Physical Laboratory. This now has 10 members - one more than when it was set up over a year ago. Members include Plessey, Ferranti and Quest, slong with GEC Marconi, Thorn-EMI, ICL, STC, Racal, Logica and Smiths Industries, according to IRD. The group is looking at both commercial and military applications, but according to the leader of the research team, Brian Pay, the people developing commerci aspects are much less active than

the military application people.

Pay saya that so far only isolated word recognisers have moved out of the laboratory environment, though continuous speech should certainly be feasible within a few years. But he adds that the problems of producing reliable systems are not yet solved.

Like the IRD report, Pay is well

aware of the likely impact of the Japanese electronics companies.

"Japan has gone very quiet," says Pay, "but one con't help thinking they are beavering

In this country work on speech suropean Speech Recognition and recognition centres around the Norwalk, CT 06831, USA, 5985.

Globe gets London distributor

microcomputer bullding club Globe Business Machines i preading its wings from its Bristol base. Wimbledon software bouse lotelligence (UK) — of MicroModellet fame — has signed up with Globe to act as a distributor in the

Globe started delivering Its cight-bit CP/M machines three months ago, and is presently shifting shout 90 systems a month through its 16 dealers. These are all within 150 miles of Bristol, and supported by Globe Itself. As production of the machines ramps up to a planned 200 machines a month, Globe wants to expand more into the London area,



month, Globe wants to expand more into the London area.

"We met Globe six months or so director of Lotelligence (UK), and liked their realistic approach of taking a standard machine and systems.

"The wants to expand to an invaling the standard with the ward sees the involvement with the ward sees the ward s

Micro News is compiled by Robert Parry.

When you're buying a minicomputer, invest with confidence in the experience of GOULD S.E.L.

Invest with confidence in the experience of Gould SEL

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Corporation. Dunlop and Rolls-Royce to name but a few. The Concept 32 family provides an unbeatabla combination of price and performance. At the low end, the Concept 32/27 from only £20,000 is a compact processor on a single plug-in module, whilst at the high end, the Concept 32/87 is the capable of handling any systems application. world's fastest 32 bit super minicomputer — for under £100,000 it's over 3 times faster than any Scientific data processing. Computational processing. Programme development. Simulation. other minicomputer system. industrial Automation. Large process control and This broad range of power makes the Concept 32 monitoring. Right through to data management. family the perfect choice for your systems application. To date, we have successfully installed more than So if you're thinking of buying a minicomputer, follow 200 Concept 32 systems for customers throughout the lead of some of the biggest names in British Industry. the UK. Major commercial and industrial organisations And invest with confidence in the experience such as British Aerospace, the British National Oil of Gould SEL.

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Both sides can benefit from

university collaboration COLLABORATION with indus-

try, especially high technology industries, is an accepted feature of oumber of significant products have resulted. Such a relationship is clearly fruitful, but has so far failed to flourish in the UK where, with a few exceptions, universities. polytechnics and other higher educational establishments do not form productive links with the in-

ligenous computer industry.
One reason for this is the lack of motivation on the part of the uni-

For centuries, our universities have been amply funded and so have not experienced the need to

distrustful of universines' activities; not because of the ideas that they beget, but because those ideas lack the trimmings that make a product marketable. Only—the largest technology companies are product into a university environin a position to buy ideas rather than finished products.

The scene is rapidly changing though, on both sides. As higher education in the UK is faced with shrinking funds, it will be looking to increase its revenue by externa means - and gaining s commercial sense at the same time.

close relationahip with ita educapany got off the ground thanks to a large maintenance contract with the University of Cardiff, followed up by the decision of Bristol University to standardise on the Data
Type range of video display terminals. This relationship benefits
both parties considerable. both parties considerably.

view, there are pure financial ad-vantages in selling to the educa-tional market. No bad debts, for one thing! More seriously, the colleges and universities represent a large market. There cannot be a British university with less than £1,000,000 worth of computer equipment m be maintained and upgraded. And it is a consistent

Even more important than these considerations is that the universities can provide the supplier with an enormous pool of intelligent and competent users who can thor-

new perspective.
All those who think that academics have no appreciation of what the commercial market requires are making a big mistake. In general, university users are using technology three years before it hits the office desk and we - have-found-that-throwing-a-newment produces valuable feedback.

And any product in a university sive use it will probably never again experience, so any potential weaknesses will soon become evi-

ial sense at the same time.

Data Type has always had a lose relationship with its educational customers. Indeed, the comotherwise have access to

In return for the belp we get from our university customers, we endeavour to give them value for

There's no stopping for this 5.30am transatlantic jogger

ger. He goes out at 5.30 every morning and does three-and-a-half miles on weekdays, seven at week-ends, either on Hampstead Heath when he'a at bome, or in the woods

At 60 he needs to be fit to work a 12-hour day, including weekends. Kason is the head of UCC, the second biggest independent software multinational - software evenue \$66 million a year — and e's a Brit who was asked to cross he Atlantic to turn the company

Born in Poland, Kason came to England in the 1930s and retains grant who is grateful for everything he is offered. Following service in the RAF he went to London University after the war to study

When he gradusted be joined Ferguson and simultaneously atu-died mathematics at the Regent Street Polytechnic. He became chief engineer for Dulci by a fluke. "It was picking up a challenge

without evaluating too much its chances of success. If I had evaluated too much I wouldn' have done it. That's how it has always been with me." He developed tape recorders

and sold them at the rate of 500 a month. Dulci offered him a partnership but be could not raise the capital, so he moved on to de-signing hi-fi for EMI 'I was involved in the design of

the first BMI valve computer, the After two years with EMI he

became chief engineer at Ford'a Dagenham plant, helping to set up "This gave me s nice opportu-nity to use computers, which I still hadn't had up to then."

Gerry Tuffs

EMI invited him to go bsck to sort out the Emidec, which needed 1,700 changes in a single year. A



KASON ... "I enjoy work, I love people".

manufacturing team with 800 engineers was built up and they started making transistorised computers:

Medical Transistorised Computers:

Among Univac's cuatomera one machine every two weeks. In the middle-Fifties, this was the biggest division of BMI.

The Emidec 2400 was sold to the Soviet Union. A large and ophisticated machine, it was still use in Moscow until recently.

BMI's computing operations were suddenly taken over by ICL (then ICT). 'I said, bey, I'm not working for you. I've built up this ousiness from next to nothing and felt I should at least have been

EMI had a chance to become as big as IBM, he said, but they had taken a wrong direction — "they chose the Beatles instead". He

should become director. British subsidiary in 1968 and took over responsibility for the new

Automation Centres International rith bureaux all over Europe, and fell to him to save it from col-

"I was two years on the road, trying to build up a management

A certificate

ONE of IBM's recent publicity

stunts involved taking a couple of Buro MPs round the company's

two lucky MBPs, Derek Enright (Labour, Leeds) and Peter Price (Tory, East Lancashire) went out

on site visits with IBM service en-

gineers, and tripped round the country with salesmen.

This valuable Euro time was not

wasted, for it is part of the fellowship scheme organised by the Industry and Parliament Trust to promote understanding between

ndustry, the House of Commons

After completing 25 days with IBM, -Price and Enright were

called up by IBM UK managing

and the European Parliament.

installations. In addition, the

to prove it

were a Birmingham computer ser-vices company which was taken over by UCC "It was a aurprising thing for UCC to do and even more surpris-ing was that the Birmingham people recommended to UCC 1

had last had a two-week holdy, but said he slept well and feed He was made a director of the latter a programmerlanalyst Lie father, like daughter. And why the "University" Computing Company? "Oh, it toric ressons. No usive sit

1108 in London. UCC bought Zurich-bssed

In 1974 he was asked to go to the US to work directly under the "It was my first exposure a

programmers. It was quite struggle, but we succeeded."

American methods and 1 va shocked; the approach was so di ferent. For one thing there was much longer hours. But there was

also a new degree of satisfaction."

Under the Nixon and Ford at ministrations be was appointed a viser on trade matter. 1976 are him rise to European presiden and for the next two years he was involved in expanding the software side with SPI.

He drew a hasty curtain over the Datran episode, except to real that the head-on collision with Rel Labs had been "a disaster which put us back many years.

on US technology for the Siberian pipeline illustrates how dependent Europe and the UK are on American tech-"When I became president of the company in 1978 the never computer we had in Dallas was ten years old. And you can't get our placent in this business,"

my golf handicap, I guest, but what for? I enjoy work, I lost

people."

He couldn't remember when by

His family lives in London E

has a son and a daughter - the

connection now, of course \$2 sometimes people still ring \$7

from India or Pakistan wanting it know if they can go on one of c;

time to read a lot of books.

The biggest computer company in Europe is IBM, the second biggest is DEC. Both are American companies. Beyond that, up to 70% of all computer equipment in It was in February 1979 that Europe is US built, sourced, or supplied by American finally climbed to the top of his ganisation.

Why didn't be retire too?

"Why should I? I could import

That could be construed as dependence to the point of strategic vulnerability if the US government goes too far to European governments, and particularly the French,

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

'free' technology

WHEN a nation's decision making passes from intelligent

men and women to intelligence men and women, disaster

There has been much comment recently that Yuri

Andropov, the new head of the Soviet Communist Party, is

Much less bas been made of the fact that George Bush

the man just a heartbeat away from an ageing US President

Is an ex-head of the American Central Intelligence Agency.

battle over the free availability of technology in the West.

What the two men share is e profound involvement in a

The battle has critical implications for the future of

President Resgan's ill-conceived and now withdrawn ban

former bead of the Soviet Secret Police, the KGB.

Buish, and indeed for European, high technology.

The battle for

have long noted the danger. The government has in a less public way made the same point, by seeking a second and less "politics!" source for technology in Japan.

In a covert, and increasingly suspect attempt to head off this growing European sensitivity, the American Central lotelligence Agency has taken upon itself the task of remioding the world that the Soviet Union is the enemy.

The free availability of Western, meaning US-based, computer technology, is, according to the CIA, a major source of military assistance to the enemy, Russia.

The CIA's thesis, encapsulated in a report made public in Aptil, is that Russis is so deficient in advanced technology that the KGB now has 20,000 procurement officers in the field illegally procuring US technology.

The report dissemingly overlooks the large number of CIA operatives in the field

The US, CIA led, is currently attempting to curb Russian forts to sequire technology in a variety of ways, most of them deeply inimical to the interests of individual European countries, and even more inimical to the interests of American computer companies.

The CIA has recommended that Cocom, the Paris-based body which co-ordinates the release of strategic Western technology to the USSR, should be turned into a huge bureaucrscy, complete with unaccountable military committees. The CIA, for less obvious reasons, has prodded the US government away from support for the International Institute for Applied Systems Analysis. But the real scandal, spart from the suggestion that American foreign policy in one area is being driven by the bagmen of an undercover agency, is the alleged means being used by the CIA.

In the case of IIASA it has been suggested that a smear campaign bas been conducted by the CIA. Even the Royal Society felt moved to peak out on the issue, with the warning that HASA can survive its funding crisis, "but not the smear campaign".

Just weeks before crucial announcements about IIASA's funding, there were some inspired leaks about Soviet spy-(See atory back page).

We have resisted the temptation to get overly excited about the current space of spy stories particularly revolving around the GCHQ intelligence operating centre st Cheltenham. While exciting copy for the nationals, the computer angle has always been a tenuous one. But the more general rumblings being put out that the West's technology secrets are at risk from clever foreign espionage agents does give tise to concern. Let us hope that the current crop of dirty trick stories does not lead to any silly decisions concerning the free availability of computer technology.

1984 and all that . .

This week's example of the strange things people say about computers was sent in by Len Unsworth of Salford, who wina £5. Science teacher Andrew Gudgeon has programmed e computer to mark homework. Andrew, who teaches in Lytham, Lancashire, says his computer can even add "must try harder", when necessary.

LETTERS

The Lisp has arrived

IN the article Snag in ICL Move to Expert Systems, by Philip Hunter (CW, November 4), I note the statement that no machine dedicated to Lisp is yet generally avail-

May I make a correction by pointing out that, as previously announced, we at Electronic Associates Limited are the distributors for the Lisp Machines manufactured by Symbolics Inc of Cambridge, Mass, and are currently delivering these processors in

To date, four Symbolics LM-2 Lisp Machines have been installed by Electronic Associates Limited, two in England and two in France. A total of 45 Symbolics 3600 Liap machines are allocated for EAL distribution from December this year through 1983, and of these nine are on firm customer order including five in England. The Lisp Machine has arrived in

Electronic Associates Ltd,

Burgess Hill, West Sussex

Kneeling ops

REFBRENCE Downtime, Operators Reduced to a Kneeling Position (CW, October 21), basn't Chad seen the Wang adverts fcaturing babies?

Didn't he know? They're the

have to have floor level kit. With the average age of programmers being 14, the average age of operators being six months and the unemployment figures proving retirement comes at 16, the operator pictured is obviously past it

K. GEARY

High Wycombe, Bucks

Don't accept bad law

THE view of former BCS presi- will get to the statute? dent, Gerry Fisher (CW, October 28) who was reported as saying If the legislation is poor, as the government White Paper certainly that the existing data protection legislation should be passed now suggests it will be, the cry must be "What a load of rubbish". To and then amended later, is positiaccept placidly what is offered is to give up before the start. Whatever legislation is proposed is going to have some problems in applica-

To argue this view admits at the outset that the legislation is bad. and the way to improve it is through reforming and future legislation. It has taken over 14 years to get a government this far. In which century does Fisher

It is absolutely folly to to accept legislation that is known to be inadequate from the outset.

Nations replaced the League of Nations and it became obvious

that South Africa was not going to

original mandate, the United

Nations, by a series of resolutions

witbdraw and the International

Court of Justice was of the opinion

that South Africa's presence was

Meanwhile South Africa contin-

the vast mineral wealth of Nami-

fulfill the requirements of

Sales to South Africa

ucle on computer sales to South
Africa as being emotive, abusive
in Namibia. When the United and uncritical.

very emotional about the suppression and exploitation of millions of people in South Africa, but I hope that I can still distinguish between

fact and fantasy.

Hardy would have us believe that the, yes, "inhuman" pass system can be justified by the al-most benevolent administration handing over the excess of income over expenditure on the compuerised pass scheme to improve the

is there to enforce the regime's oppressive apartheid policies and readers who work for manufacturera and suppliers of computers and peripherals to South Africa should

The categorical statement that the South African Defence Force is not illegally deployed in Nami-The League of Natious, estab-lished in 1919, placed Namibia un-

der the control of South Africa

renders like L. W. Hardy.
M. G. CHALLIS which was charged with the task of pursuing Namibian independence Tetbury, Glos.

failures DESPITE his assumption to the contrary, I fully support S. S

Hitchcock's atressing of the need for contingency planning and adequate standby arrangements. quarrel only with his use of misleading statistics to emphasise that in his letter (CW, October 21), he chose not to address this

Hardware

issue, but resorted to misquoting my words. I did not say that nor-mal hardware failures were irrelevant, rather that, contrary to the impression created by his comments to John Kavanagh, standby tion to them.

I. D. FOLLETT

Excellent

l WAS interested to read your arti-cle concerning Lloyds Bank and Cranfield and was slightly surand decrees both in the General Assembly and the Security Coun-cil, called for the immediate with-drawal of South Africa from prised at some of Lloyds admis sions. As some of your readers know we have had a High Tech nology Unit for some while and South Africa of course did not can vouch for the excellence of

IAN DUFFELL Manager, High Technology Unit

Barclays Bank

ued to earn foreign currency and influence by illegally licensing multinational companies to extract Plus ca change...

Just as the plunder of Namibia continues so too will the exploitation and oppression of black South Africans aided in part by the DEC field service departments an their relationship with mushroom management, it is surprising to supplies of computers and peripherals but also by the fantasies of note that nothing has changed in the last 12 years.

T. R. STANLEICK Hitchin, Herts

THE PARTY OF THE P SOFTWARE

Yss, the December josue conteins FREE gemes programa on flexidisc for the Spectrum, ZX81 end Vic 20 computers. An erticle tello you how to transfer the progrems from the disc to your computer, thus evoiding the leborious process of keying in listings.

Also in this speciel Christmeo iasue:

Gemeo Gelore — progrems for the Spectrum, BBC, Acorn Atom, Aleri end Sherp MZ 80K compulers.

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O Marketing Department, Room I 24 PC Electrical-Electronic Press Ltd., Ousdrant House, The Cusdrant, Sutton, Surrey, 8M2 5A8 Please send me 12 leaves of Your Computer, 1 encloses cheque/F.O. for 68 UK/£14 Oversess, payable to IPC Business Press Ltd.

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1. OPEN SYSTEMS INTERCONNECTION
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This conference, organised in conjunction with the Department of industry, raviews tha current stage of devalopment of each of the aevan layers of the Reference Model, projects valopments, analyses the potential that open systems intarconnaction has for contributing to improved corporate parformanca, and asaaaaas the degree of commitment that both suppliar and usar organisations should now be making to the advancement of open systems interconnection.

2. SECOND AND THIRD GENERATION SPC PABKS-NEW PRODUCTS AND APPLICATIONS

15 February 1983 - London Thia confarence will examine user experience with advancad voica and non-voica PABX applications, usar needs as parcalvad by both usars and suppliars, naw SPC PABX products encompassed by second and third generation offerings and future developments in voice switching — including both PABX and LAN approaches.

COMPUTER-AIGED DESIGN AND MANUFACTURE

A monthly newslatter published by Oyez Scientific and Tachnical Sarvices in cooperation with the CADCAM Asso-

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Brightening up the place READERS will have noticed my scepticism being streteched to previously unknown limits by the

DOWNTIME

wild and wonderful claims made for air ionisers n few weeks ago. The new departure for the ion boys lies in the bousing units for their wonderful devices. Caught up in the wave of enthusiasm for matters organic, biodegradable and ecologic, the boffins have developed a new container for the things which is guaranteed to appeal to trendy environmentalists

in a macrame basket, suspended It would be callous to suggest that the device comprised nothing more than an empty box with a mains lead attached and that any perceived improvement in levels a jolly good thing. working conditions is purely

verywhere: the ioniser is housed

subjective, so I won't. But those macramé baskets hanging about the place might cheer things up a hit

10 YEARS AGO FROM COMPUTER WEEKLY OF NOVEMBER 23, 19721 The government was urged in the Commons to persuade Harland and Wolff to buy an ICL machine rather than the IBM 370/135 system for which it had placed an order ... Plessey received an order from the British Post Office worth £1 million for five System 250 processors . . Heinz Nix-dorf announced the takeover of the computer division of Vlctor Comptometer.

Adding a little

manufacturer to jump on to the colour supplement bandwagon. Once again, readers of the Observer

magazine have been belaboured with, er, unusual claims. Prime is seen likening itself to a moth which changes colour to blend in with its surroundings and the industrial revolution when smoke filled the akies of Britain.

Now it appears that the little devils are switching back to grey following the changeover to nonpolluting atomic power. Prime appears to consider this ability to change colour with varying amoke

Liveware

Don

So at last we know wby smoking forbidden in Prime machine rooms - all it needs is one careless John Player Special and the processor would instantly change

WHAT TWISTED

MIND WROTE ...



Senders of the most apt caption to this picture will win a signed copy of

Watch out, there's a bug about director Eddie Nixon to receive a glossy certificate to prove they had-A BUG seems to be following me refuse to come on (it eventually around. In the last two weeks of turned out it was down for main-Press assignments I bave seen a Barclaycard irretrievably gobbled up at an electronic funds transfer Shades of Uri Geller — I'm now

THE DOCUMENTATION

FOR THIS PROGRAM?

the ghost at a major conference. Shades of Uri Geller -- I'm now

successfully completed the course.

They were the first Euro MEPs to finish such n stint - e fitting testament to their endurance. nonstration, a videotex facility open to commissions to stay away.

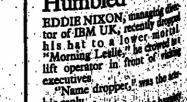
It is good to know we have such sterling fellows sitting for us in Brussels and Strasbourg, is it not? PERSONNEL -CALLED LE CARRÉ? DO WE HAVE ANYONE DN.





Great Blue Whale of the companion industry, believes in keeping industry, believes in keeping and the companies that has volunteered by pay a total \$7.7 million to be clear up a hazardous toxic was dump in Indiana.

IBM's share is \$2.2 million indicated by the





IT is nice to know that GBW, th

Humbled



IBM's share is \$2.7 minus
the \$1 million indicated by at
cartoonist). The question is
sort of excrement hat like
dumped over the years. What at
of noxious fumes are given of its
the rotting corpses of IBM 350.

How alcohol can make a fool of your system

human speech quite accurately, although with the rhythm of a Da-lek, and the melody of a tone-deaf parrot. But the converse process of speech recognition has proved elusive in spite of the millions thrown has emerged from research

Results have so far been patchy and largely restricted to applica-tions involving very small vocabularies and only a few people. There are, for example, several security systems trained to respond to amall numbers of passwords, and to recognise the volces of authorised personnel.

But even these are not fool-proof person's diction enough to make such systems luccough. And they are dummies in the hands of skilled ventriloquists, who by training their voices can fool most of them most of the time.

The problem is in separating the chaff from the truth. What is a computer to make of the statement: "His mind stinks like a sewer?" Nonsense, probably.

A general speech recognition machine has to be able to identify vocabulary, when spoken by many different people. It has to be shle

Phonetics is the study of voice

Another unexpected difficulty including Oxford and Cambridge: that men and women, although acoustically different creatures, are heard by us as the same (except for the difference of pitch).

with the voice, filters out the fun-damental differences between male and female speech. It was only, therefore, when male and female voices had many times been displayed graphically on spectro-grams that the differences became apparent, since we do not notice them (oh, how our senses lie to

The phonetics lahoratory at Oxford University is now working on a mathematical model of the man ear that demonstrates these differences. The eventual outcome it is hoped, will, he a decoder to sit

to cope with different dialects, and the fact that we pronounce the same words with varying stresses and tones, and often misproguidance from phonetics lecturer Anthony Bladon, should be de-

duces the correct movement of the speech organs (tongue, teeth, lips The reason is that the human and vocal cords) corresponding to ear, which has evolved in harmony each component of speech. "You can do things like 'how are you' visually," enthuses Bladon. The model is limited by being only two-dimensional and fails to show the sag of the tongue, or shape of the lips properly. Three-dimensional models of the vocal tract have been developed else-

where at Bell Laboratories, and at Cambridge University.
The Cambridge model has been used in one of the most successful applications so far of voice recognition - teaching deaf

Developed by a team under Frank Failside, a reader in engineering, the model has been in use five years, and enables deaf

stead on a screen.

veloping several computer applica-

nons involving voice production or

One of these is a graphical cross-

section of the vocal tract that pro-

Fallside explains that the teacher speaks into the system which displays the appropriate movements of the vocal organs. The child then does a trial, and as he approaches perfection, the display gives visual encourage-

sounds within words," says Fall-side. He adds that computer recognition can discriminate be-tween vowel sounds quite accu-rately now, and it is the conso-nants, with their vast difference in

The "th" sound, known as a fricative to phonetic ists, can either be voiced as in "the" or unvoiced But hack at the Oxford phonet-

ics lahoratory, other things are

specified parameters is being used to huild a library of sounds. To produce an "a" you specify a broad band of noise between seven and ten Hz for example, and then use the keyboard to control the final production.



BLADON . . . Men and women talk differently, but the ear filter this at

If generated code fails, what then?

YOU will probably have to wait for Christmas to find a week without a conference on program generators somewhere. One result of this glut is that delegates are getting more demanding of them, and ting more demanding of them, and are not happy with off-the-shelf answers to their questions.

At the recent conference organised by NCC, the National Computing Centre, one delegate asked simply and reasonably: "What do you do when generated code

The question was put during the panel session at the end of the day, and one of the speakers replied: "The error can occur at various

Each week there are 500 Last Ones sold, and only an average of one error reported, he boasted to

the rest are flowcharting errors, he

Another of the speakers, David all the way through except at the James, inventor of The Last One first phase when the design has to program generator for microcomputers, showed a flash of opportunism, and issued a little public relations piece.

Solutions of the said spesses when the Last One is replaced by The Real One, which will use what James calls beuristic Heuristic reasoning, says James,

will replace the present menus and offer users a comfortable back seat Of the reported errors, only one in ten is the fault of the generator, questions to work out the design.

e rest are flowcharting errors, he id.

James pointed out that The Last

This is all very well, thought delegates, hut just how flexible will The Real One be? Will it ena-One differs from most of its competitors by offering artificial intelligence. When you have given it



JAMES . . . The Last One will not last long before being succeeded by The seem One.

Expensive method of debugging?

£100 is yours," boasts Open Computer Services (OCS), of Brighton, to its customers. A hrave move, hen the software itself only costs £500, but so far the offer has cost the company nothing since it was

principles are now ao well un-derstood that any programmer worth his porridge could probably

ploughed field of payroli and ter Weekly that this offer could he says.

dehugging the software. After all, hugs can often take a long time to

Byerett rightly dismisses auch an unkind suggestion, and points to the immaculate quality of the OCS software. "No bug has yet been found, and all we have had are one or two comments about the



Jam yesterday, but not today

AN ohvious application for real time computing is in the control of traffic. Suggestions made for such systems range from the practical to the preposterous, and include an idea that care should have on board computers responding to radio sigpals transmitted from traffic lights and cameras placed at strategic

Pleasey Controls has come up with something much more practi-cal for Hampshire County Council with a £500,000 Urban Traffic Control Scheme in Southampton.

Like several other systems al-ready installed, the Plessey one controls the timing of traffic lights throughout the city, on main roads

pletely interselled independent of the time of day. Workplace is compiled by Philip Hunter and Andrew Thomas.

PUZZLER

THE residents of a cul-de-sac are discussing a tender to re-surface the road.

"This amount will require £24 to be levied from each bouse," says Mr Smith.

"But I shan't use as much road as you," exclaimed Mr Brown, "because I live right next to the main street."

"All right then — you pay £2, the next house £4 the next £6 and so on," replies Smith."

"Yes, and levy I of said from member of each family down it member of each family of site of the lation, the resident find that of lation, the resident find that

respond to particular congestor.
At slack times, it can order is

At slack times, it can use traffic lights to change quicht that people are not kept what that people are not kept what unnercessarily. But at peak hors unnercessarily. But at peak hors unnercessarily.

cial, although sometimes is necessary to penalise one radis

favour of others.

Clive Allen, the product as ager at Plessey responsible to signing the system, says it is a signing the system, says it is a signing the system.

NOVEMBER 30 Data is collected from over 10 "seiamic studa" placed under it road to register each particulate. A central computer his calculates the traffic timing to the traffic flow, and also it is to particular congestion.

OVEMBER 30 Mitchell Offices, 1 Puddle Dock, Prolog and Expert systems. BCS Blackfriars, London EC4. 4.30. South-west hraoch. Lecture DECEMBER 8
Theatre 5, Plymouth Polytechnic. Data analysis DECEMBER 1

Unions in DP — is there s piace for them? IDPM Ceotral London Stanch, Altergo, Imperial House, 15-19 Kingaway, London WC2.

SULLIVAN . . . "On loan" to Commodore for a year

Graham Sullivan has been granted a year's mbhancal by the Berkshire

Education Authority to act as edu-

uniness Machines. He will advise

he company on current educa-

computing developments.

Commodore wants to pinpoint the

needs of computer education in schools, and the level of computer

swereness in primary and

Head-hunting in DP - DPMs: Where do you go now, and how do tranch. British Caledonian Head-quarters, Caledonian House, Betts DECEMBER 2

Introduction to computing in a technical environment. BCS Hampshire hranch. Mountbatten Theatre, Southampton. 2.00. DECEMBER 3-4

Silver Juhilee Computer Fair. BCS Wolverhampton, supported by 1732. Details from S. Percival DECEMBER 7

Social evening. Visit to Thames
Tekrision, Teddington, followed
by wine and cheese party. BCS
kingston hranch. Tickets from
trunch secretary. tranch secretary.

The Multi-purpose workstation.

The Multi-purpose workstation.

IDPM Birmingham branch. New Imperial Hotel, Tample Street,

Birmingham, 7.30.

Value for money audit in tho computer field, BCS Anditing by Computer Group, Peat, Marwick

Data analysis: Normalisation

and charting. BCS Birmingham branch. Royal Angus Hotel, St Chad's Circus, Birmingham. 6.30. The role of business games on mlcrocomputers. BCS Bristol hranch. St Vincent's Rocks Hotel, Clifton, 7.15.

DECEMBER 9

Amdahl UK names

managing director

AMDAHL UK has appointed a manager for Northern Europe, be-

Pasola, who remains general of the company's UK operations."

Little joined the company as a marketing manager in 1978 and immediately before his German appointment in 1981, was manager

of sales operations in Belgium and

Amdahl says the move reflects

the "rapid and continuing growth

new managing director to replace Terry Pasola who has been com-

bining that function with the gen-eral management of Amdahl's Northern European region, which includes the UK. He is Brian

Little, who returns to this country

from Germany where he acted as director of operations in Germany

Annual general meeting. Association of Field Service Managers. Skyway Hotel, Hayes. 10.30. Details Paul Newnham 01-560 0700. DECEMBER 13.

Programming — A cottage in-dustry, by Steve Shirley, founder of F International, BCS Luton. 7.30.

DECEMBER 14

Local area networks. BCS Word Processing and Office Automation Specialist Group, Board Room, London School of Economics, Houghton Street, London WC2. Application forms from L Wright, treasurer, WP & Office Automation Specialist Group, 101 New Street Hill, Sundridge Park,

Bromley, Kent. Information Technology Year, by Ken Barnes, project director of ITS2. Honeywell, Maple Room, Pairfield Halls, Croydon, Admission free, 7.15,

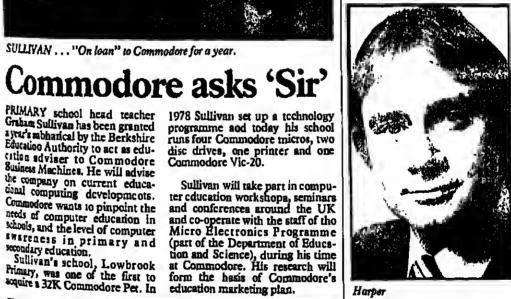


Stephen Mountford has been appointed UK sales manager at Oric Products International. He Kirby operations director of the joins the company from Rank company. He was formerly with Xerox, where he was in sales and Rank Xerox, where he was regio-

fusion Computers as a software lecturer at the company's education centre in Crawley. He was previously with the Mole Valley District Council for six months.

sppointed Jim Watta as sales manager. He was previously with Kardex Systems, where he was a sales

Alan Harper (below) previously regional sales executive at Terminal Display Systems, TDS, has been appointed sales manager (ter-minals) at Amexon Communicstion and Computer Systems.





Computer Automation's commercial systems division has appointed Ian Coldwell as manager of UK distributor sales. He was formerly DP manager with Avis

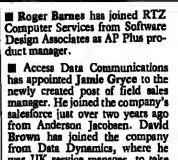
Managing director at Deltak is Phillp Parker. He previously worked in America, Africa and Sperry Univac in International fin-

Greer Calvert has joined Redif- MSS International has named Peter Byans managing director. He was previously marketing director st Data Logic.

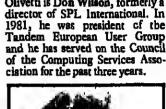
> MNew systems consultant at MSA is Ian Dick, who joins the company from Preeman Fox and Partners where he was cost/project

M Agrochemical company FBC has appointed Robert Oscroft (below) as data centre manager. He will be responsible for the operation of a new VAX computer to be installed by the end of the year. He was formerly systems manager at Woolstons and Blunts.





was UK service manager, to take on the same position at Access Data Communications' Uxhridge service centre. Marketing manager at British Olivetti is Don Wilson, formerly a director of SPL International. In 1981, he was president of the





■ Newbury Data's administration secretary Marina Delaney secretary Marina Delaney (above), has been promoted to sales executive responsible for end-user sales of the company's VDUs, matrix printers and microcomputera in Surrey, Hants and Sussex.



■ Annie Brooking (above) h heen appointed head of the Knowledge-Based System Centre recently set up at the Polytechnic of the South Bank in London. The eentre will research appl... ations in the area of artificial intelligence and knowledge-based engineering and has already received support from a Japanese company involved in that country's fifth geogration computer project. Brooking is a former lecturer in computer studies at the South Bank

■ DISC (Debenhama Interactive beginning of this year, has strengthened its management team at the Somerset headquarters.

Martyn Goodman, who joins as finance director, was formerly with Logica; David Kauders, previously with Deloitte, Haskins and Sells, becomes planning management. nger; Andy Breekon joins from Hoskyns to manage Disc's data centre; Brian Hume becomes systems manager, having loined from Scicon; and Murray Cooke, who formerly worked with Prestel, has been appointed viewdata de

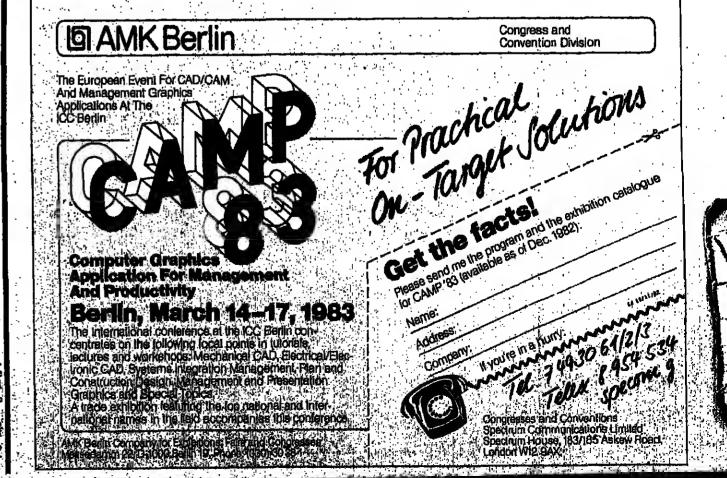
CONFERENCES

COMPUTER networks are taking the data processing industry into the third era of information processing, says Monadock Interantional - so the company has arranged a seminar called Data Communications Network Design December 6-8, and through leadelegates the type of data comms systems available; data comms codes, formats and error checking techniques; network protocols; network planning and more. Pee is £385+VAT. Details from Monadock on 01-262 2732.

M HONEYWELL Information Systems is to hold a three-day seminar on information processing security and data privacy at the Royal Garden Hotel, Kensington,

London from December 13-15. Called Security, the event will review potential risks; look at lega aspects of security; and cover file and data security, access control to the system, and back-up and recovery services. Details from David Wilkin on 01-568 9191.

SCIENCE Fiction writer tsauc Asimov is the keynote speaker at the HP 3000 International Users Group Conference to he held in Montreal from April 24-29, 1983. He will offer his own perspective on rohotics and cybernetics. Systems designed with users in mind will be the theme of the conference. Further information from Renaye Lee, conference manager, HP 3000 tUG, 289 South San Antonio Road, Suite 205, Los Altos, Californis, US. Tel: (415) 941-



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Perhaps the confidence of OCS springs from the fact that the package concerned lies in the well-ploushed field of the confidence of OCS chair-man David Everett by someone not too far removed field of the confidence of OCS springs from the fact that the potential points are confidence of OCS springs from the fact that the potential points are confidence of OCS springs from the fact that the potential points are confidence of OCS springs from the fact that the package in the confidence of OCS springs from the fact that the package in the confidence of OCS chair-man David Everett by someone not too far removed from the fact that the package in the confidence of OCS chair-man David Everett by someone not too far removed from the fact that the package in the confidence of OCS chair-man David Everett by someone not too far removed from the fact that the package in the confidence of OCS chair-man David Everett by someone not too far removed from the confidence of OCS chair-man David Everett by someone not too far removed from the confidence of OCS chair-man David Everett by someone not too far removed from the confidence of OCS chair-man David Everett by someone not too far removed from the confidence of OCS chair-man David Everett by someone not too far removed from the confidence of OCS chair-man David Everett by someone not too far removed from the confidence of OCS chair-man David Everett by someone not too far removed from the confidence of OCS chair-man David Everett by someone not too far removed from the confidence of OCS chair-man David Everett by someone not too far removed from the confidence of OCS chair-man David Everett by someone not too far removed from the confidence of OCS chair-man David Everett by someone not

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Computer pioneer had to A useful systems workbook struggle for recognition

nineteentb-century stritude to

while still at Cambridge, he founded the Analytical Society to reform mathematics, and later oined forces with the astronomer John Herschel to attack policies and activities of the Royal Society, writing a book called Reflections on the Decline of Science in Eng-

land as a vehicle for his criticism. The idea of calculating by machinery occurred to Babbage in about 1820, when the Astronomical Society asked him to prepare sets of tables. Herschel produced one set and Babbage another, but

Britain could only hope to keep ahead of other nations by diffusing the knowledge gained through ad-

ooe to many companies or indi-viduals seeking government funding for high technology development todsy. Mooey was promised, but not forthcoming, and Babbage was left to fund most of his research himself from a

modest private income.

Invited to stand for the North
London constitueocy of Finsbury
in 1832, one passage of his election
speech could have been written for
ITR2, so similar is its philosophy.
In his speech he maintained that
Britain could only hope to keep

Charles Babbage, Ploneer of the Computer. Anthony Hyman Oxford University Press. £12.50.

BORN in 1791, Charles Babbage ived more than a century before his life struggling for recognition on finis advanced ideas. Primarily a mathematician, be was already ahead of his tutors when he arrived at Trinity College, Cambridge, and this started him off on a crusade to reform the nineteentb-century attitude to

drowned in his youth while experi-

menting with water skis.

This is a fascinating book which gives sympathetic insight into the life of a brilliant man who, though thwarted by official bodies, still managed to complete an amazing amount of scientific work and statistical applying.

It is oot by any means a book about the first computer, but gives a very readable account of the inspiration, skill and sacrifice of the man whose dream was to build

Maggie McLening

data and its applications.

Advances in Information
Systems Science: Volume 8.
Edited by Julius T. Tono. Plenum Publishing Co. £42.50.

This volume, the eighth in a series which has maintained both consistency and style throughout, includes major sections on file or major sections on file or major sections.

THIS is, without doubr, a thoroughly useful systems workbook.
The only daunting aspect is the price. At £42.50 it's strictly for the library or corporate budget. That said, what's the appeal?
In my time as a systems analyst

there were always two rebarbative aspects to the work: the first was working with tools from the last decade; the second was finding out, easily, quickly and in readily usable form, those advances which had recently occurred and which would be swiftly put to use.

Consideration and commental the key structures is follows by consistency and style throughout, includes major sections on file organisation and performance, software development for digital control and clustering analysis of data and its applications. further sections on the pinosecoodary file organisations. The final section of the her

dealing with geometric modand its applications in medica design and production, is re-which is becoming lacracy important in many industral op-nisations, is one of the beau fac-From a working analyst's point of view, the survey on file organi-sation is e clearly laid out guide to the principal recent developments in this field. The presentation is introductions around. clear, lucid and compares the rela-tive applications and uses of various file forms, including the

A book recommended to 2 worker in information scient is interested in keeping about the field, in order to do him

Kevin Coll

This Cobol feature often neglected

THE case for using the Cobol Report Writer is advocated by the authors giving as evidence the pro-duction of efficient, maintainable,

self-documenting programs.

The book is aimed at Cobol programmers and their managers, particularly in IBM/370 environments. It covers an often neglected

Structured Cobol Report Writer

A Programmer's Productivlty Tool. Schechter & Yvkoff.
Reston (Prentice Hall). £18.70.

Many example programs are de-

four key structures of sequential

organisation, direct organisation, indexed sequential organisation,

veloped in the text and claim to illustrate a structured programming approach and good style.

After an introductory chapter, the second chapter aims to dispel some myths associated with the report writer and illustrates its use in the generation of a normal report.

The main body of the book is

Info security plan will

be useful to the DPM

including a comparison of the let a and 1974 standards in the sure: a guide to introducing the act the report writer in practice.

then divided into three partit first examining the elements port writer features; the sexula

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DATA protection has been the subject of a debate in the UK since the early Seventies. Despire the recommendations of Professor Lindop and his team, the govern-ment is insistent on a low-budger, low priority treatment of the mar-

ter - some day.

In the meantime, the DP manager is left to decide for himself what level of protection to give his Schweitzer's book should prove

useful to managers contemplating the development of a rotal informatioo protection scheme. The emphasis is very much an informa-tion security, rather than the phy-sical security of the computer hardware.

The author develops his in-formation security model using a three-dimensional matrix of computer user groups, levels of man-agement directive, and levels of

The five user group areas are business systems analysis and programming, research and engineering/personal computing, office automation, data processing and telecommunications operations,

puting.
After establishing a "rate h tor" structure for differential information, Schweitzerhald: four rules of information see The ebsolute necessity die

porate security programme lale by a definitive statement of po s stressed, and detailed au: directives given.

Schweitzer has little tine risk analysis, which be could an expensive exercise not pisting its cost. Instead, he advocate the value factor system as E-more effective in providing &-

The information protection?

gramme described in the book so systems technology security ti ager for the Xerox Corpora: The only real fault is the author

Nevertheless, Managing !: formation Security is a well-addition to the bookshelf of the DPM: particularly one constant with the security implication berent in the spread of mixture

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stast, he is entertaining and he is a good presenter of complex technical material, particularly in terms of its likely effects on society.

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implying that the resder is the thumb of the writer's improved tive to read, or else.

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Not much that isn't is his Mayne's excellent book to it Videotex Revolution, and the deal less than logically organisms terial, for easy comprehense by, say, a person in the companion of t

industry who has day by an industry with the topic.

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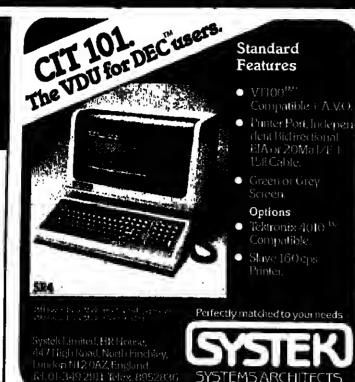
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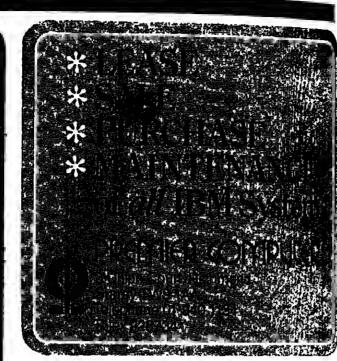
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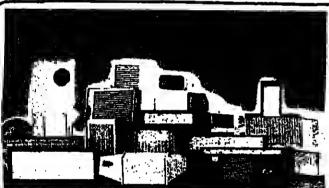
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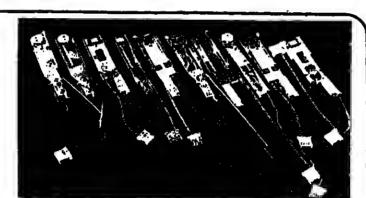
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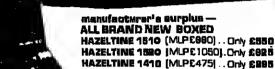
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You will have a young approach and have had at least 18 months experience in an analytical role with a sour d programming background within an IBM GSD environment, using RPG 2/3. Previous life

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This plan will ultimately utilise both IBM 4300 and System 38 facilities, but it is within the latter area that the need for a Systems Manager arises. The successful candidate will take responsibility for the control of the development of a totally integrated system which will cover all aspects of Cunard's activity both on-shore and afloat

---- This key appointment calls for an individual with well proven-Project Leadership and management skills, gained in a System 38 environment, and hopefully with experience related to the shipping, travel or cargo/freight handling industries.

> Personal skills will also play an important role in this post, as the Systema Manager will be required to liaise closely with Cunard personnel on both sides of the Atlantic, as well as at sea, within the development and installation of systems at Southampton, New York and aboard fleet vessels worldwide.

A high, negotiable five figure salary will be offered to the successful candidate, and where with the addition of a company car, other benefits and full relocation, the remuneration package will reflect the status of this post within an Internationally prestigious organisation.

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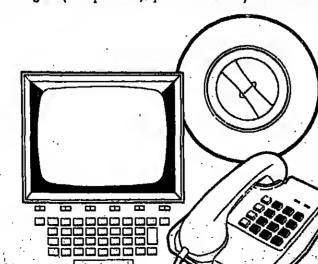
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Specific Appointments.

Opportunities exist at two levels, For Senior Programmer/Analyst posts, you should normally have a degree (or equivalent), plus at least 3 years relevant



experience, preferably with a period in a supervisory capacity. For Programmer/Junior Analyst posts, you need at least 2 'A levels (or equivalent), plus 18 months relevant experience. Some trainee posts may also be available for inexperienced but otherwise qualified

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An internationally recognised Communications Equipment Supplier Is currently seeking a number of UNIX Programmers for its technical softwate division on the South Coast. Suitable applicants should have at least two years' software development experience gained within a microprocessor-based environment. It is anticipated that you will offer fluency in at least one high level language with C or PASCAL being the most desirable. Of course an in-depth knowledge of the utilities offered by UNIX is essential. Working as a member of a multi-disciplinary team you will be involved in various applications which will include Telax, LANs, Packet Switching and public/private networks.

Ref. 1/47/A

Firmware Programmers

Thames Valley: Salaries to £11K

A small but rapidly expanding company has a number of vacancies for Firmwore Pragrammers/Designers to join its product development group. Acting as the external development department for many of the leading names in the industry, the company is able to offer s wide range of hardware and software involvement. Suitable applicants will be graduates with a B.Sc. or M.Sc. in Electronic Engineering or Computer Science. It is essential that you offer fluency in Micro Assembler with additional knowledge of a block structured language such as Pascal or "C", being desirable. Mostly based in-house you will be involved in the development of intelligent terminals, data espeture equipment, multi-micro communications processors or ATE software.

Ref. L/47/B.

Micro Software

Central London: Salaries to £7.5K

A number of challenging opportunities have arisen with London-based Software Houses and Total Systems Suppliers for Applications and Software Programmers who graduated in 1981 or 1982. Generally you should have a first or second class honours degree in Computer Sciences, Electronics or Malhematics. Those who have completed a "thick" or "Ihin" Sandwich course and can offer a minimum of six months' programming experience with a commercial organisation are particularly encouraged to apply. Fluency in PASCAL or a Micro Assembler (and in some cases C under UNIX) is an advantage. Your academic project should have been biased towards financial development, interactive systems, networking or robotics/artificial intelligence.

Process Control Software

E. Home Counties: Salaries to £12K

A major supplier of micro-based iodustrial control systems has a number of vacancies for Senlor Systems Engineers with around five years' software design experience, gained io a distributed processing covironment. Applicants should possess at least one degree and be fluent in an Assembler and either "C" or Pascal. There is a strong preference for candidates with development experience on a Z80 or T.1.9900 based system, although applications are also sought from those with bands-on experience of any leading MDS. Excellent communications skills and the ability to clearly formulate product and system needs as well as project management abilities are highly destrable.

Ref. 1147/D

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Netherlands: Salary to £15K

A leading International Systems House and Turnkey Supplier is seeking to recruit a number of Software Programmers and Systems Engineers for permanent career positions commencing in January or February, 1983. Suitable candidates should hold at least one oumerate degree and have two years' software programming or systems engineering expenience in an industrial environment. Candidates who have programmed in one or more of the following languages will be of special interest: MACRO 11, PASCAL, 'C', PL-M or CORAL. Hardware experience is less intportant but those who are currently in a development role on PDP-11/VAX, Argus, Intel 8086/Motorola 6800/68000 will attract a salary premium. Preliminary interviews will take place in our offices after which short-listed candidates will be invited to the Netherlands.

Robotics Software

Home Counties: Salaries to £12K

A manufacturer of Robots and Industrial Automotion products has a number of opportunities for Software Development Engineers to join its Research ond Development facility. All candidates must offer a mioimum of B.Sc, degree, preferably Electronica or Computer Srience. Preference is likely to be given to those who have post first degree experience either within academia (M.Sc, or Ph.D.) or industry. All candidates should demonstrate an appreciation of the theory of robotics technology and also have a real desire to participate in the utilisation of robots within a mass production environment. You should have had previous exposure within one or more of the following specific areas: artificial Intelligence, laser scanning, apeech synthesis and image processing (object and shape recognition). Candidates should also possess good personol communication skills since there will be a certain omount of client demonstrations both In-house and on-site.

Ref. L/47/F

Simulation Engrs.

Thames Valley: Salary to £12K

A long-established Engineering Systems Supplier based in the Thames Valley has an immediate requirement for additional FORTRAN Programmers and Simulating Engineers. You should hold at least one numerate degree and be aged 23-30 years, Whitst the Company's software products are machine portable there is some preference for candidates who have programmed in a PDP/VAX, Prime, HP or GEC environment. Of greater importance are those who have very recent or current software design and applications programming experience with one or more of: guided weapons and missile control systems, LSI and hybrid circuit design, simulation and modelling of ballistic/dynamic systems.

Ref. L/47/G

Compiler Development

London & H. Counties: Salaries to £14K

A major Systems and Software House has recently embarked on a large new project requiring the expertise of a number of Compiler Development Specialists. Suitable candidates will have participated in the development of either a Pascal or Ada compiler, preferably for 16-bit micros. Familiarity with all phases of compiler development is strongly desirable with particular emphasis placed oo Code Oeneration and Optimisation. Whilst specific responsibilities will vary, depending on the ability and experience offered, all successful candidates will be involved from initial proposal stages through to the creation of a fully self-supporting compiler.

Ref. L/47/H

Software Designers

Swindon: Salaries to £15K

The Swindon-based Research and Development facility of an ioternational Systems Supplier currently requires a number of Software Designers and Project Leaders. Suitable applicants will be numerate graduates with a minimum of three years' software development experience in a microprocessor-based environment, tdealty you will have current or very recent experience in the design and development of a distributed electronic office system or a communications network. Of particular interest will be applicants who have gained software design expertise with multi-station word processors, personal computers (in an interactive mode) and/or Local Area Networks. Working to a dynamic environment you will be utilising the latest software techniques and opportunities for career advancement will be excellent.

Ref. L/47/I

Systems Architects

N. Home Counties: Pkg. to £16K

A highly profitable computer manufacturer has a most intereating and unusual opportunity within its Development Department. To assist in the development of their new generation of machines they require a Senior Systems Software Engineer, with a minimum of seven years' compiler development experience. Familiarity with a number of block structured languages is desirable, as is knowledge of multi-processing systems. Specific responsibilities will include the definition, implementation and maintenance of Systems Software; the development of a strotegy for coping with applications languages in a multi-processor environment and the co-ordination of the netivities of a number of project teams. Whilst extremely demanding, this position offers the project teams. Whilst extremely demanding, this position offers the successful candidate the opportunity to spearhead totally new developments in the field of Systems Architecture. Ref. L/47/J

Comms. Consultants

Inner London: Salaries to £20K + Car A highly regarded Consultancy having its Headquarters in the City is seeking several Seniar Communications and Strotegy Consultaous. Ideal applicants should be aged 28-35 years and be educated to at least B.A. or B.Sc. standard. You will be expected to have a thorough knowledge of at least two of the lollowing: office automation systems and networking; data or voice communications; systems analysis, design and systems management (IBM orieotated); market and product planning to include both surveys and the ossessment of market requirements. Good personal communication skills are of parantount importance since you will be expected to make presentations at hoard level and to prepare reports and recommendations to exacting deadlines without supervision. Fluency in o loreign language, specially French or German, is a welcome asset. You must be prepared to travel both nationally and internationally.

Pascal Programmers

Home Counties: Salaries to £10K

The Research and Development division of a leading multi-national corporation requires a number of Programmers to assist in the development of both Applications and Systems Software. All respondents should possess a degree of H.N.C. In a relevant discipline followed by at least two years in industry. A minimum of one year's development experience on either intel 8080/5 or Z80 based systems, preferably running under CP/M or UNIX is essential as is fluency in Pascal. A knowledge of protocolling techniques and an Assembler language are useful supplementary skills and will attract a salary premium.

Ref. L/47/L

Systems Software

Herts./Beds.: Salaries to £14K

The Communications and Networking Division of a leading Turnkey System Supplier has a number of outstanding career opportunities for Software Engineers and Programmers within its recently established research and development facility. All candidates must be educated to B.Sc. or H.N.C. standard and have subsequent commercial/industrial experience amounting to three years. Of Interest to the Company will be those who have software and systems design experience with a packet switching or networking product and in particular of communications protocolling techniques — X-25, SDLC/HDLC. Cortain positions will be exclusively in-house based whilst others will continuation will be exclusively in-house based whilst others will continuate in the enhancement or optimisation of a UNIX or UNIX lookalike operating system.

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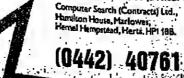
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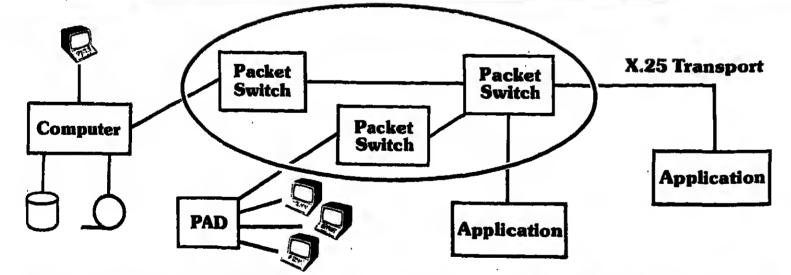
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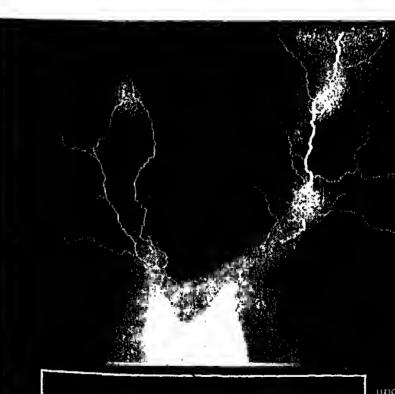
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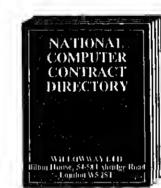
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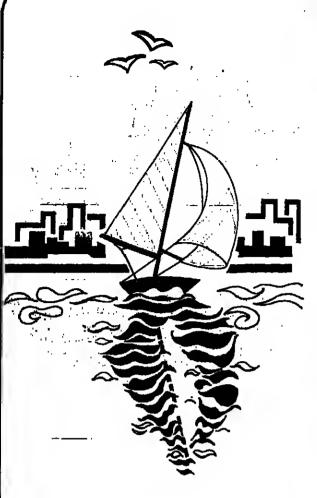
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Our citient is one of the largest international companies in the world with considerable investment in new product development and an extremely powerful marketing capebility. Having created a new operation within its axtensive and successful computing business and having already appointed a vationat Sales Managar, ti la now oftaring a superb caraar opportunity in first line salas management Wa are saaking two skilled area managers with considerable tield sales experience of Miniand/or Microcomputers to spearhead this new sales operation dealing specifically with OEM/Dealer outlets operating from two locations in the UK:-

MIDLANDS AND NORTH AND LONDON AND SOUTH

This will be a small specialist operation with an anticipated complement of around 6 sales people within the initial parted of development. This opportunity is therefore likely to suit applicants currently operating at Area Salas Managament or Senior Salas Exacutive level for e major manufacturer or in a first line sales management capacity for a Sentor Micro computer operation, it you have a track racord of successful selling experience in Mini or Micro computers and the potential tor advancing with a dynamic company that is an industry leader, then we would like to maet you. Plaasa supply complate carear details to Peter Hubble or Alasdali Scott quoting retarence

This job is available to both male and famale applicants

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THE ASSOCIATED EXAMINING **BOARD**

Computer **Operations** Supervisor

A deproisor is now required to oversee a busy Operations villiers a Honeywell Level 64 DPS computer together with comprehensive range of peripheral and terminal deproprient for the administration of public examinations. The configuration is shortly to be enhanced and Database dystems are being prepared for installation during 1983. The increasful applicant will have several years' operating seperates of which at least two will have been in a supervisory capacity. Experience should have been gained a local rommunications network. Experience of Honeywell computers would be of considerable advantage as would the ability to write J.C.L. instructions.

This post is no the salary scale of £5,557 per annum rising by its annual increments to £6,871 per annum, the point of the salary being determined by qualifications and experience. There is a contributory Pension Scheme and other benefits salade Luncheoo Vouchers, free car parking, 28 days' Application forms may be obtained that the Pairconnel.

Application forms may be obtained from the Personnet Application forms may be obtained from the Personnet Manager, The Associated Examining Board, Wellington Microsoft Station Road, Aldershot, Hampshire, (Tel: market Private and Confidential, not later theo Priday.

11 December, 1982.

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CUMBRIA CONSTABULARY PROGRAMMER/ **ANALYST**

The system which is currently under development by a software house will run 24 hours a day, 365 days a year supporting 52 terminals at centree apread over the Cumbris as rea. The headware chosen to run the system is a duel Ferminti Argue 700GL using Corel 66.

emple with the force technic mouter cities for the operate computer officer for the operation, maintenesse and development of the operational system and any further computer systems required by the force. Candidates should have some experience of systems analysis, a good knowledge of a high level is naturage and ideality axperience is real time computing.

(A.P. 5 £7794-£8328)

interport offers the cooperation of detects the opportunity to wide higher experience to all espects of developing end implementing computer systems and of running computer hystems and of running computer hystems and relocation expenses may be expelled a subject to local agreement conditions.

Analyst/Programmers Real-Time Systems + Technical Writer (Hardware/Software)

You should have a good degree in Computer Sciences and a minimum of two years' experience of real-time systems on mini-computers. PASCAL, CORAL ALSOL or ASSEMBLIR experience is destroble and experience of program.

The Company

The Rowards

Protel COMPUTER WEEKLY November 25 1982 37

SALES BIT Quality of Management - 32

Keep those meetings entertaining

IF sales meetings are to be a gainst in terms of worthwhile they must result meaningful selling activity. with white they have result in participants departing with greater enthusiasm to sell the company's products than before they went in.

This means that such events should be staged (and I use that word deliberately) only wheo they are required, with preconceived

resented in an entertaining for the structure of s sales call, AiD (Attention, interest, Desire), is

if a sales meeting cannot capture the attention and interest of its participants it concerned to be out in the field instead.

When should a sales meeting take place? There are two lactors to take into account: jusufication and ming. First there has to be

The fact that a sales meeting has hitherto taken place on the last Friday of competitive situation, special presentation, sales training session, and so on

Nouce that this brief list does not include administrative matters. Most topics of this kind are best dealt with separately; certainly those affecting individuals or small groups as opposed to the sales force

Even administrative matters affecting everyone should never be the basis for a sales meeting but rather a brief side issue accompanying a significant sales or marketing event.

Timing is rather more difficult and to some degree depends on the size and distribution of the sales force. What makes it more difficult is the fact that there are always good reasons for not having a sales meeting at any time you care to think of, if the chosen time isn't eating into prime selling time it's cutting into

personal time.

I prefer Priday afternoons because of all selling time it is the part of the week that a salespcopleare

meaningful selling activity. For many the weekend Saturday mornings have a lot to recommend them,

away from the pressure of people and telephones and worrying about what else one could be doing if one was not tied up in a sales meeting. However, the venue and

fringe benefits have to make it worthwhlle in the a p p licable to the salesman's eyes. The sales office and a Wimpy isn't a fair exchange for keeping people away from their own free time. Something like a country club with a firstis far more profitable for all activity and a free bar at icast tells everyone the company appreciates that it is taking up precious time that the individual would normally have to himself; even if only in bedl

Finally, there is the content of the sales meeting. Leaving the event to fate in the form of a predominance of subjects introduced by every mooth is no the particpants themselves justification for another one this month. There has to be positive reason — new courting disaster. How can a product announcement, sales manager expect to control a meeting when he has made no preparation for the greater part of the topies

> If a sales meeting is to succeed it must be subject to considerable thought and thorough pre-preparation. It must have variety of pace, real interest for all concerned and, if at all possible, elements of back row cannot, and do not wish to, fall asleep, become engrossed in The Times crossword or page three of their favourite tabloid.

Maybe this sounds difficult - after all the meeting is being staged by a sales manager not an impressario: but many things can be done to put some sparkle into the event. It is a well established fact that one of the strongest forms of education is via the means of entertainment, so

entertaining it has to be... Next week I hope to give you some ideas that will not get you into show business but should raise the interest value of your future sales

Alan Williams

PUZZLE ANSWER

LET X be the oumber of persons and Y the number of persons and Y the number of persons and Y the number of persons and Y the method of calculation obviously involves an arithmetical function of persons and the captesian control of persons and Y in the captesian control of persons and Y in the captesian control of persons and Y in the captesian control of persons and Y the number of p

involves an arithmetical progression.

The sum of such a 5 or less, and Y = 18 or progression equals the more, the expression 23Y - average of the first and last Y = 100 is negative terms (£2 and £2Y in this Therefore Y must be a case) multiplied by the whole number between 6 number of terms (Y) and 17

Therefore we can set up the Trial and error then equation YY(2 + 2Y) + X shows that only when Y = +100 = 24Y, from which 10 is the corresponding we find that X = 23Y - Y value (30) of X exactly a clear that X finite sections with three people in clear that X finite sections with three people in clear that X finite sections with three people in clear that X finite sections are the feath house.

But for all the values Y.